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INDIAN ARCHITECTURE
(ISLAMIC PERIOD)

BY

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(II)

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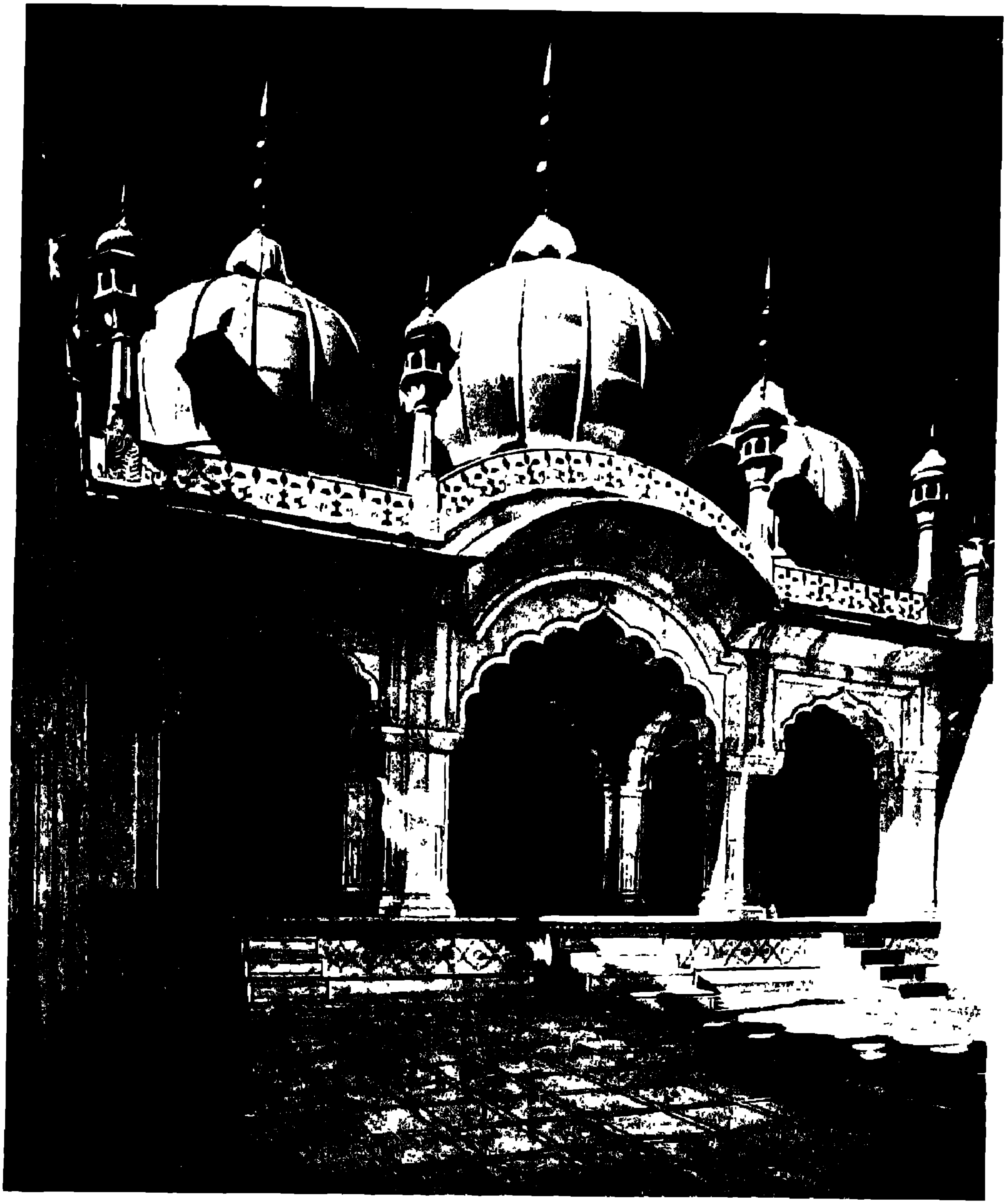
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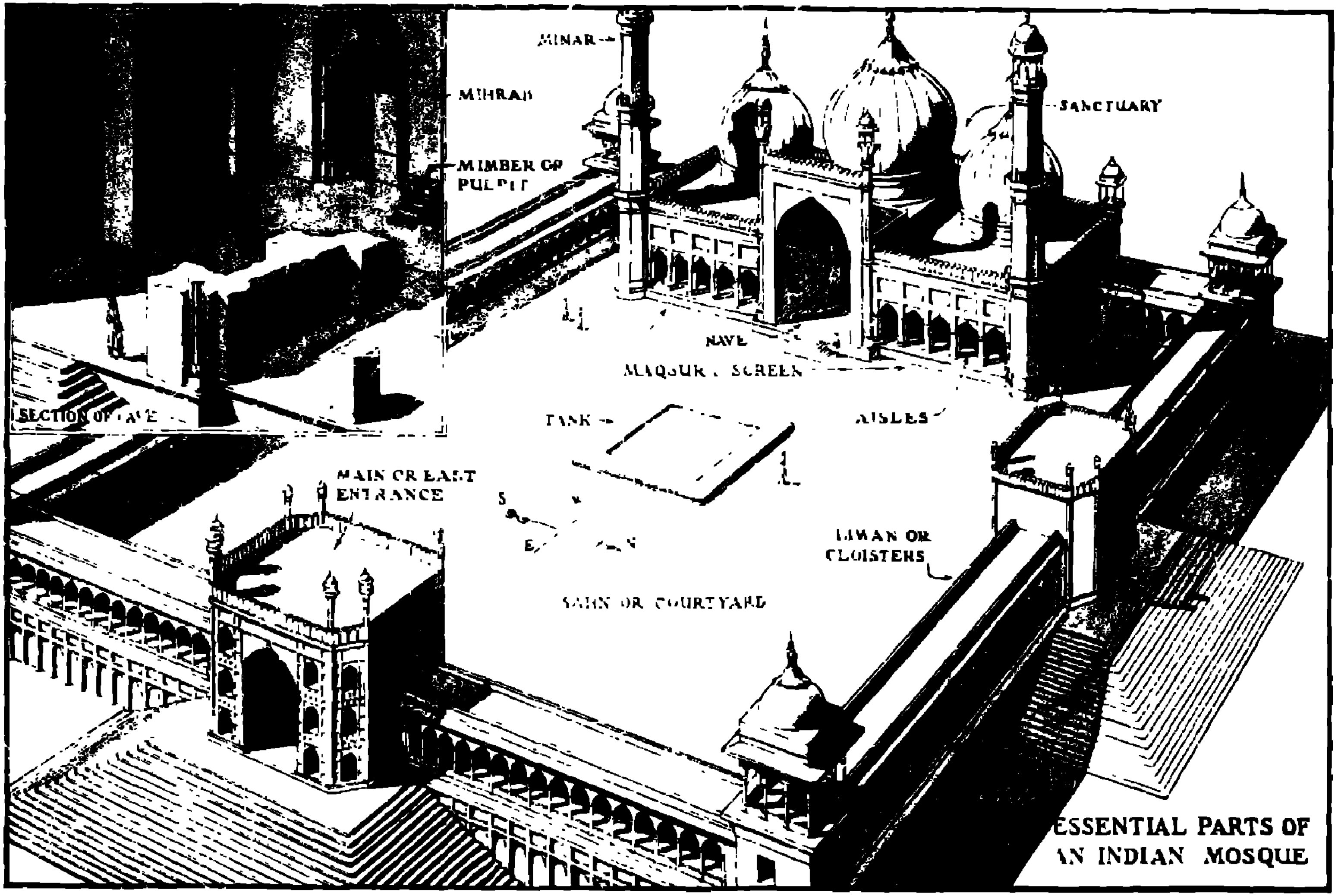


Delhi — Moti Masjid or Pearl Mosque (1662)

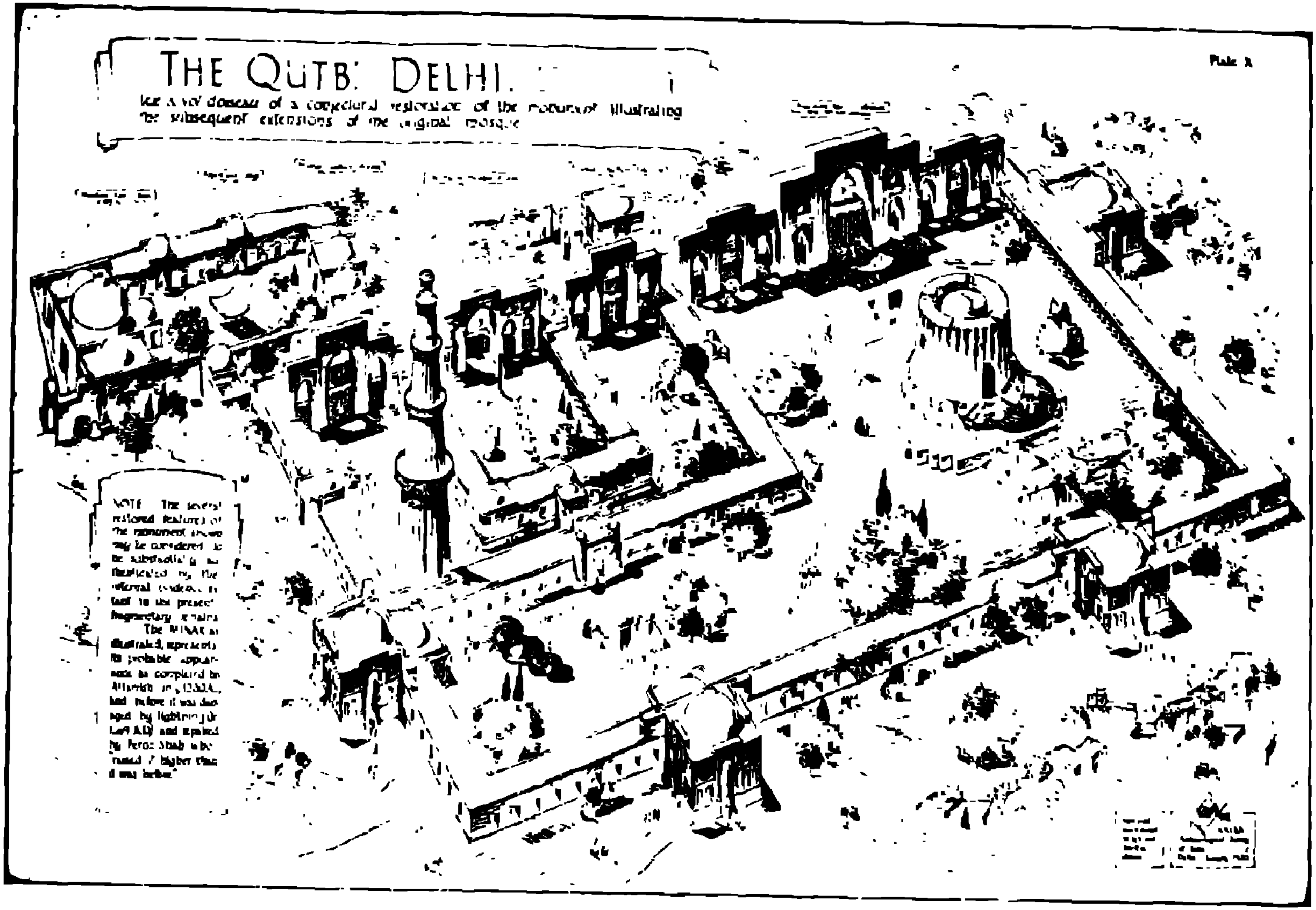
TO THE MEMORY OF

FARROKH ERACH BHARUCHA

In token of years of happy friendship, cultured advice and shrewd guidance which were at all times invaluable.



ESSENTIAL PARTS OF AN INDIAN MOSQUE



(Copyright: Archaeological Survey of India)

been broken by the invasion of Timur (Tamerlane), and its original prestige declined from that date. It will be understood that these provincial manifestations of the building art in most instances prevailed for a period partly contemporary with that maintained by the central power at Delhi, and partly with that of the Mughuls, until the latter brought the whole of India under their rule. The third style, the Mughul, was the latest and ripest form of Indo-Islamic architecture, which, emerging after the middle of the sixteenth century continued to flourish until the eighteenth century, by which time the empire founded by the descendents of the Timurids, the " Great Mughuls," had begun to approach its end.

CHAPTER II

THE SOURCES OF ISLAMIC ARCHITECTURE IN INDIA

WITH the establishment of their capital at Delhi, towards the end of the 12th Century, the architectural ideals of Islam, as visualized by the Mohammedan invaders, began to be introduced into India. Previous to this, two instances of penetration by the Moslems are recorded in which buildings according to Islamic needs were erected, but of these no actual traces remain, although traditions still survive. The earliest took place in the 8th century, when much of the lower Indus territory came within the sphere of influence of the Caliphs of Baghdad, being dominated by Arab invaders. Among other crafts, these intruders introduced into this region the glazed tile decoration imported from the Babylonian cities of the plains, and which is still a living art in Multan and other places in its vicinity. The second and much later event occurred when, in the first half of the 12th century, the Ghaznavides from Afghanistan administered their possessions in the Punjab from Lahore, where a Viceroy occupied an important group of palaces and government buildings for this purpose, but these were almost completely destroyed by the princes of Ghor in the same century. In this instance however there are some definite records, as, deep within the recesses of the old Punjab capital are relics of ancient brick and timbered structures providing some clue as to the style of building that then prevailed. Wooden doors and doorways may be found of a decidedly foreign character having projecting bosses and ornamental niches imposed in the centre of their spandrels, relating these, without doubt to the mode which flourished in several of the countries of Western Asia during the first centuries of the present millennium. These ornamental elements persisted and were incorporated not infrequently in the Indo-Islamic art which developed shortly afterwards.

But, as already mentioned, it was not until the Moslems firmly established the capital of their Sultanate at Delhi in the final years of the 13th century that Islamic architecture in India had its real beginning. Then, under the vigorous rule of the founder of the Slave dynasty, Qutb-ud-din Aibak, (dec 1210) important building schemes were initiated, prefiguring a notable movement in the sphere of architectural design and in its methods of construction. This ruler's first effort was the creation of the Qutb Mosque in 1195, erected on the spacious substructure of a Hindu temple, and consisting solely of spoils ravaged from existing temples in this area. Such a compilation had little architectural significance, it was merely an assortment of pillars and other temple components arranged in columned aisles to produce the necessary mosque enclosure. But when, a few years later, in 1199, it was resolved to project an expansive arched screen across the western or Mecca side of this enclosure, such a structure being entirely original work may be regarded as the first example remaining of a definite Islamic order erected on Indian soil. Almost contemporary with this building arose one of the most stupendous architectural achievements ever conceived by the Mohammedans, the Qutb Minar, a monumental tower to form part of the Qutb Mosque scheme and of such proportions that it took several years to complete. This was followed very shortly after (cir. 1205) by the construction of a Mosque at Ajmir, known as the Arhaidin-ki Jhompra, the general plan of which carried out the same system as the Mosque at Delhi, with interior aisles of temple spoils but its arched facade also originally devised. These three buildings form a group, executed approximately between the years 1195 to 1205, thus representing a decade of architectural effort of marked portent, and during which were laid the foundations of Islamic building art in India.

A detailed account of the design and execution of these commanding examples of the builders' art will be found in the next chapter, but here it is possible to state that a cultural and creative current of considerable significance was obviously finding its way to Delhi, thus providing the experience and knowledge, as well as the stimulus, to enable them to be raised in such a superb and effective manner. From a study of the general character displayed throughout this group, and confirmed by subsequent examples, it is evident that in their style they are closely related to an architectural movement which was extending over a great portion of Western Asia during this time. This was the building art of the Saljuqs, an empire with the centre of its activities in Asia Minor, and which attained its culmination in the 13th century, when its influence reached actually to the borders of India, at the particular moment when the Moslems at Delhi were rising into power. In view of this contact, and its effect on the buildings being erected by the Slave Dynasty at the Moslem capital and elsewhere, a short account of the development of the Saljuqs and their marked architectural aptitude may be useful.

Some time in the twelfth century, a horde of nomads from the steppes of Central Asia, moved by an instinctive urge, and adopting the name of their leader, Saljuq, began a mass movement resembling that of migratory birds, towards the western horizon. In the course of a progress marked by pillage and devastation, during which they wrested Syria from the Arabian Caliphate, absorbing some of the high culture of this leading Moslem administration en route, they ultimately established themselves in Asia Minor, where in the country of Anatolia they founded an empire and proceeded to evolve a civilization of outstanding significance.

Endowed with a flair for an artistic environment, and adopting Konia, the ancient city of "Iconium" as their capital, they speedily began to embellish the country they had selected as their homeland with an archi-

tecture in a richly decorated style and of a well-constructed order, as the palaces, mosques, colleges and imperial sarais bear testimony. How these relatively uncivilized desert people in the course of so short a period were able to develop a building art of such excellence may be partly explained by a concurrence of circumstances of an unusual nature. In the first place their architectural compositions appear to have been largely self-originated, expressive of a community unfettered by previous conventions. Not that the Saljuqs were unaware of the fundamental principles by which the arts of Islam were governed, these they inherited when they accepted this belief, but their nature was such that they infused a freshness and inventiveness into the older procedure, investing it with a new vigour and life. Equally sound was their constructional usage and choice of material, their masonry as a whole showing marked technical experience. This experience was undoubtedly derived from the presence in the country of their choice, of the remains of a considerable number of imposing monuments, all executed according to the approved structural methods of that systematic building nation the Romans, a legacy of those artificers who worked under that regime, the traditions of which were still alive although the begetters had long since passed away. It will be seen, therefore, that the character of the building art, as this developed under the Saljuqs up to the 13th century, may be traced to a synthesis of two contrasting conditions, on the one hand of the imaginative vision of the Asiatic and on the other the scientific ingenuity of the Latin. To the former it owes its rich decorative treatment obtained by a judicious blending of white marble and red sandstone carved in patterns of subtle curves, intricate, geometrical designs, and stalactiform devices, all implying an oriental trend. From the latter, by adopting the Herodian system of stone bonding, their masons were enabled to erect the solid walling, towering pointed arches, and superb vaulting, utilized with such impressiveness in the interior halls of the Saljuq palace-sarais. It is significant that these colonnades of massive piers and imposing pointed arches are contemporary with the vaulted aisles of the Gothic cathedrals to which they bear a strange resemblance. Such was the appearance of much of the architecture in western Asia, when the advance of the Mongols, and the devastation that ensued during the 13th century, brought to an end an empire and an art which, in some respects, may be said to have culturally bridged the Orient and the Occident.

From such a catastrophic episode as the Mongol invasion, in the course of which countries were obliterated civilizations destroyed, and whole populations exterminated one indirect, but relatively redeeming feature may be recorded—this was the forced dispersal, re-distribution and re-allocation of specialized knowledge and many forms of intellectual experience. Among those refugees who survived this wide-spread holocaust were certain individuals learned in the arts and sciences who by some means evaded the chaos, and eventually succeeded in making their way to those countries which lay outside the regions devastated by these barbaric hordes, there to seek safety and security. Delhi fortunately escaped and it seems fairly clear that artizans trained in the practice and traditions of the building art as evolved under the Saljuq rule, came and settled in the rising capital to find ready patronage at a time when by its architectural productions and other enlightened activities the Sultanate was aspiring to the position of a leading cultural power.

Such is the story written in the stones of Old Delhi, preserved in those monuments which still remain of that early period of Islamic architecture in India. It may be read in the design and decoration of the Qutb Mosque facade, in the surface treatment of the Qutb Minar, and in the character and construction of the buildings which followed, not readily identifiable at first, but becoming more definite as the style progressed, until, in the intention, design and technique of the mosque gateway known as the Alai Darwaza (cir. 1305) in the Qutb area, it is sufficiently pronounced to be recognized as an actual fact.

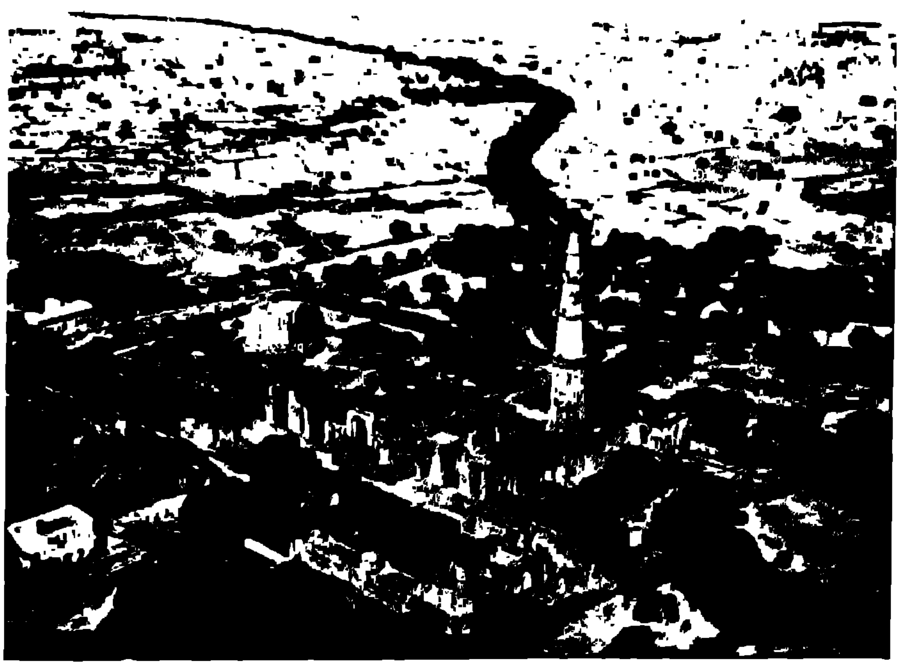
But as buildings in the Islamic mode gradually increased under the patronage of the ruling power at Delhi, it becomes noticeable that the Saljuqian influence declined, and an architectural movement from another source is not only blended with it, but, in the course of time, dominates it. This may be defined as derived from the prevailing art of Persia, as it assumed form under the Timurid rulers of the 15th and 16th centuries. An indication of this fresh stream of art is revealed by the shape and treatment of that indispensable element in building construction—the arch. Decoratively attractive as the pointed horse-shoe arch of the Saljuqians proved to be, its narrow compass was not sufficiently satisfying when wider spaces were to be spanned. Something providing a more ample interval between the jambs, or side-posts, of the openings, was called for, and the application of what is known as the four-centred or "Tudor" arch, a shape by this time almost universally used in the building of the Timurids, solved the problem. But nevertheless the introduction of this feature into the architecture of northern India was hesitant, and in certain aspects of its use experimental. Apparently the Indian masons were not altogether convinced of its bearing capacities, and in order to make their construction doubly sure, reinforced this arch with a supporting beam—the system of bridging a space in the indigenous manner by means of a lintel, died hard with those steeped in the Hindu tradition. The combination of arch and beam, well-illustrated in the buildings of the Tughlaqs (14th century), is however a negation of reasonably scientific construction, and soon after this short-lived digression, the true-four-centred arch, without the additional support, began to be generally used, as in the tombs and mosques of the Sayyids and Lodis (15th and 16th centuries). But it is instructive to note the uncertainty, when first employed, of the lines of its curves and mouldings, as may be seen, for instance, in the facade arches of the Moth ki-Masjid, dating from the early years of the 16th century, and it was not

until Sher Shah's inspired architects took the matter in hand, as shown in the Qil'a-i-Kuhna Masjid (cir. 1545) that perfection was attained.

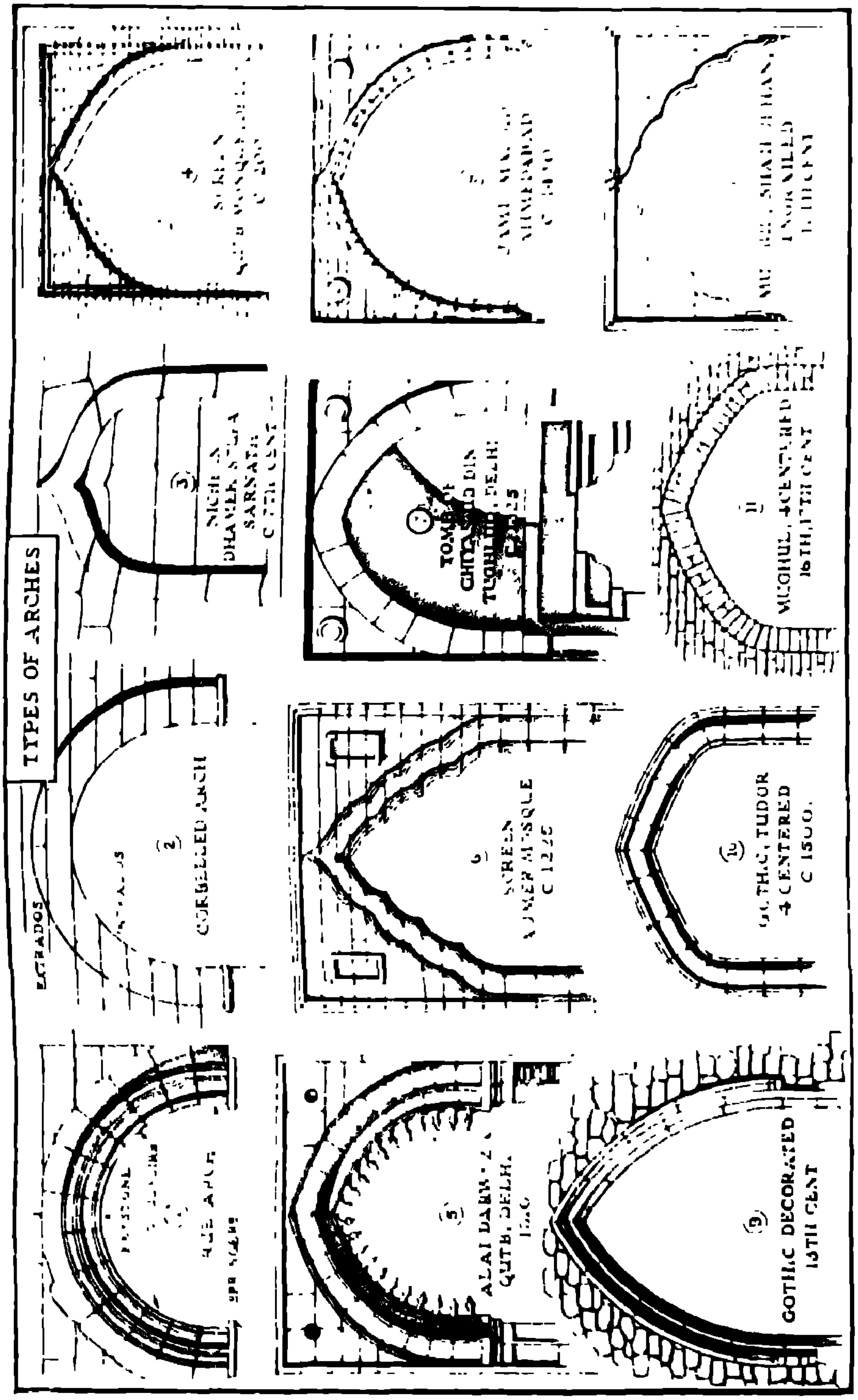
Before this stage however was reached it will have become evident that the influence of the national art of Persia was intrinsically increasing in the style of buildings being erected in the Delhi region, due on the one hand, to the marked strengthening of this adjacent power, and on the other to the corresponding weakening of the rule of the Delhi Sultanate. But, it may be asked, why should this current from the closely associated empire of Persia, where at the time a notable development of all the arts, particularly that of architecture, have taken so long in stimulating the building art of India when this stimulus appeared to be so urgently required? The reasons for this time-lag are two in number, firstly differences in racial temperament, and secondly a divergence in techtonic ideals. As regards the former it has been remarked that the genius of the Persian craftsman is of a special order, and lies in his ability for sustained effort in handling tractile media, as proved by his marvellous textiles and lustrous earthenware, while in the sphere of architecture he obtains his effects by the facile manipulation of plastic materials, such as brick and glazed tiles, so much so that his arts tend to aim at lavish and brilliant colour rather than at structural form. Handicrafts of this kind made little appeal to the Indian master-mason, who in his building schemes had all along been accustomed to treat architecture as what may be termed, a heavy industry, its fabric being composed of blocks of solid stone, won by hard labour in the quarry, and its enrichment wrought by the forceful application of the hammer and chisel. It will be seen, therefore, that inspiration from a people possessing a similar applicability and following and analogous technical procedure—an instance of stone calling to stone,—would find readier acceptance, so that in due course the richly moulded surfaces and accentuated planes of the more substantial art of the Saljuqs took precedence over the brilliantly coloured but less solid productions of the Timurids.

But it was not long before those elements characteristic of Islamic architecture, the vault and the dome as put into practice by the Persian builders, were accepted by the masons working in India, adapted however in their technical treatment to conform with the change brought about by the use of other materials and methods. As the control of the country passed into the hands of the Mughuls, the "Persianization" of all cultural pursuits became more pronounced, although during the reign of the Emperor Akbar (1556-1605), under this forceful monarch's individualistic inspiration, for a time a return was made, in the field of the building arts, to the more indigenous styles of India as may be seen within the Fort at Agra, and the city of Fatehpur Sikri, but even in these immense imperial undertakings a Persian undercurrent runs throughout merged with regional modes readily distinguishable. Later, under the direct patronage of Shah Jahan (1627-58), whose sumptuous building schemes culminated in the world-renowned Taj Mahal, the structural productions of his time, show in their general appearance, that the glazed brick double domes and recessed arcades of the Safevid period, enriching such cities as Ispahan and Tabriz, were to a certain extent, reproduced in tangible form, but without their brilliant surface colouring, in the sandstone masonry and white marble overlay of the Mughuls.

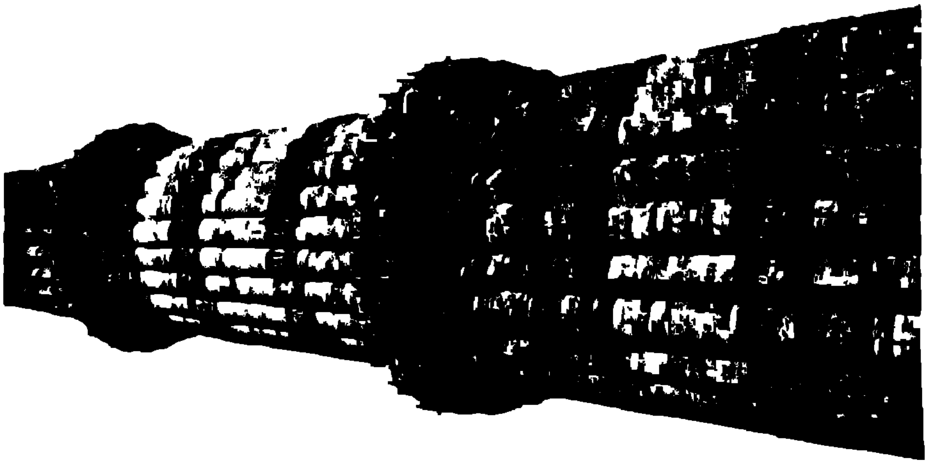




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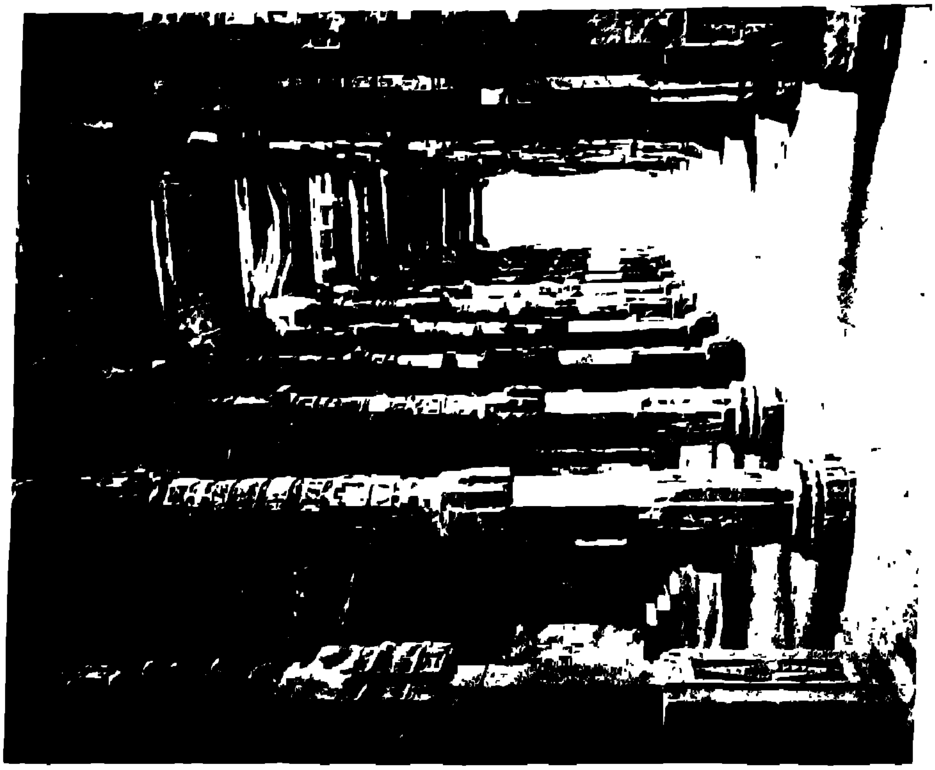

TYPES OF ARCHES
EXTRADOS
(2) CORBELLED ARCH
(3) NICHE IN DHAMEK STUPA SARNATH C 7TH CENT
(6) SCREEN AJMER MOSQUE C 1225
(9) GOTHIC DECORATED 13TH CENT
(10) GOTHIC TUDOR 4 CENTERED C 1500.
(11) MUGHUL 4 CENTERED 16TH, 17TH CENT

V



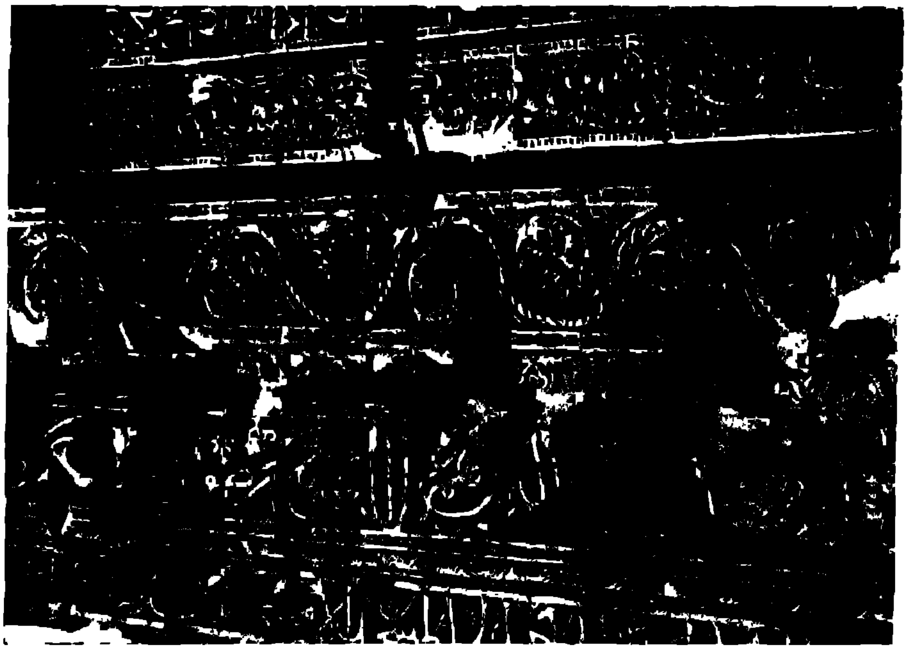


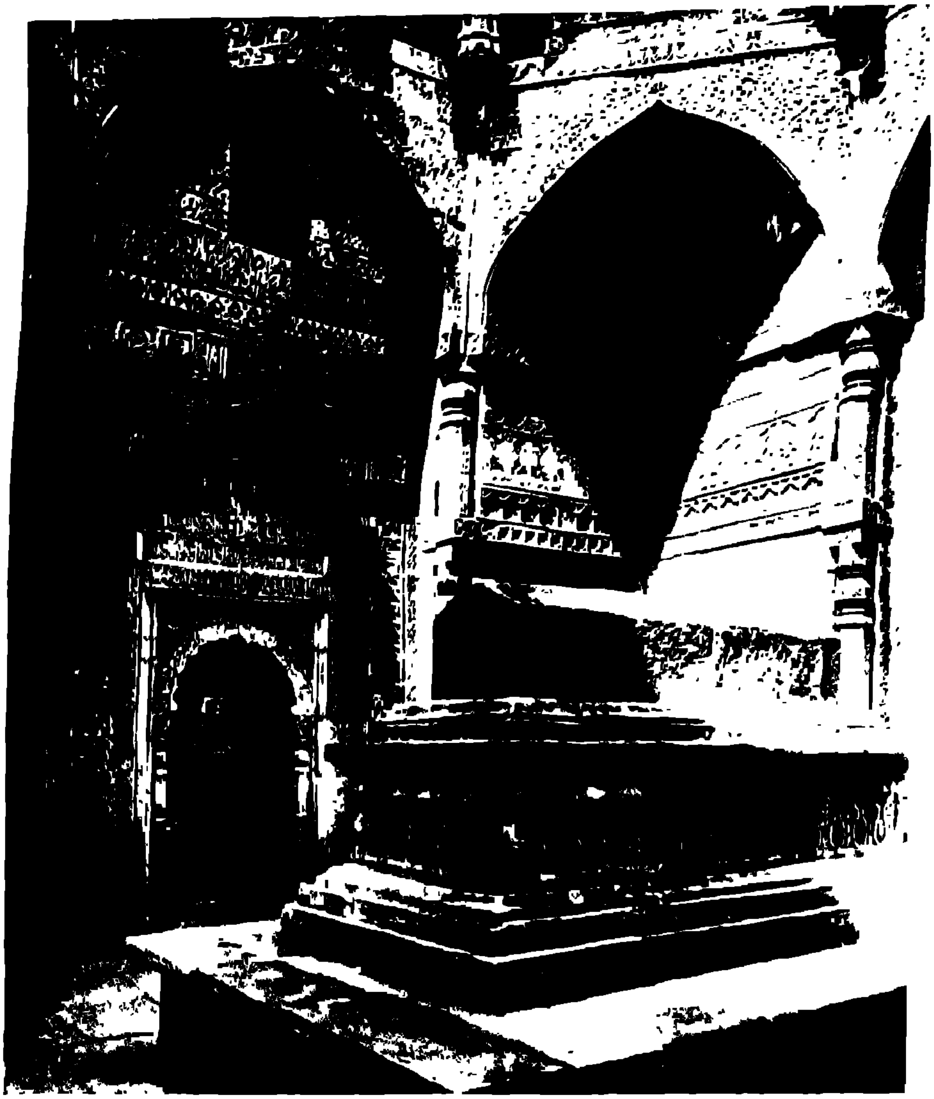
VI













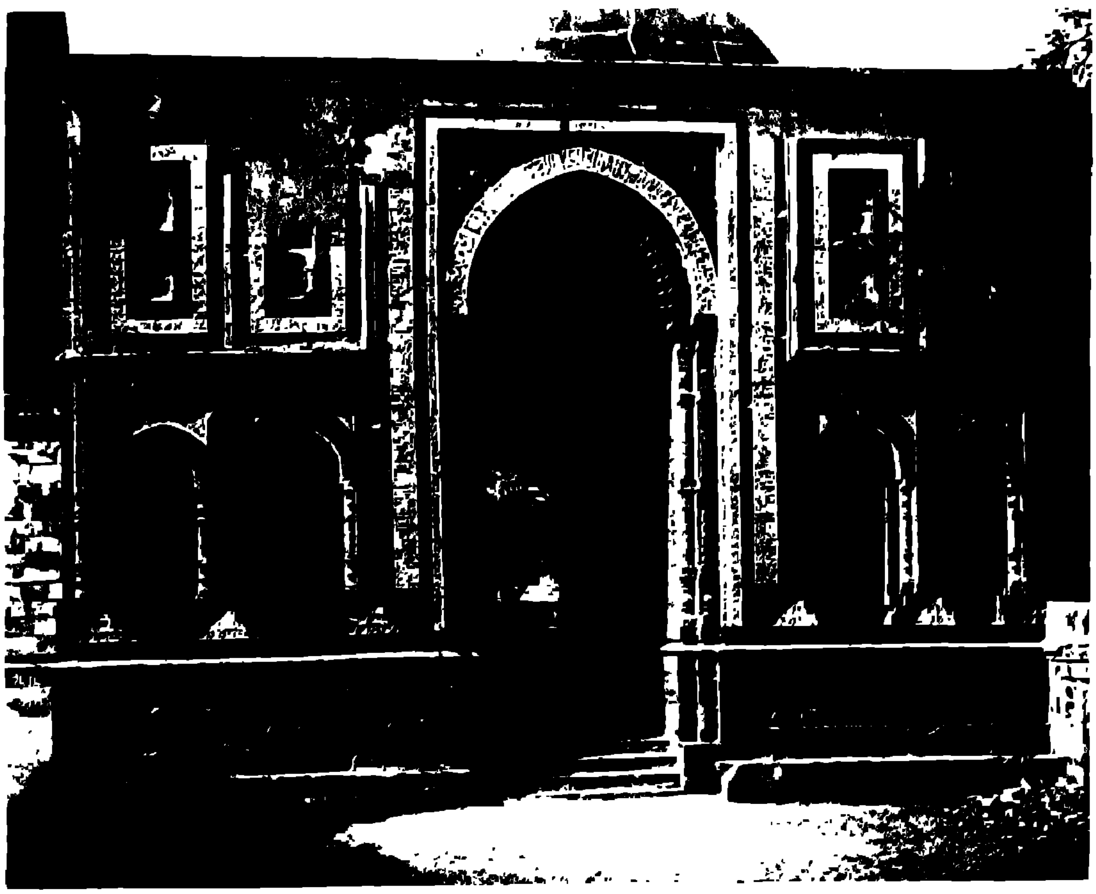
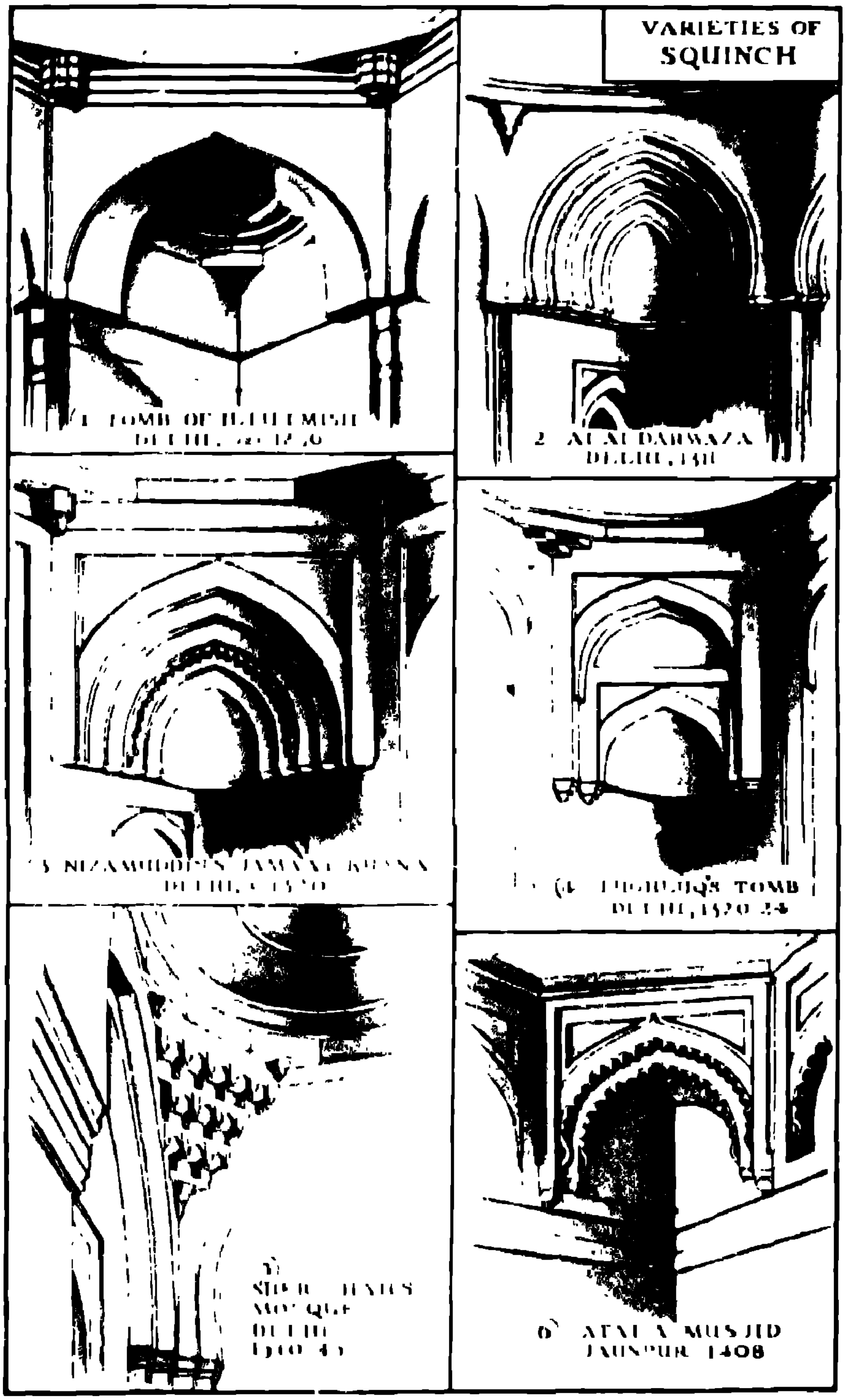


Fig. 2



VARIETIES OF SQUINCH

THE DELHI OR IMPERIAL STYLE: ITS BEGINNINGS UNDER THE SLAVE KINGS
(cir. A. D. 1200 to 1246)

THE Imperial style of Islamic architecture, as this flourished under the aegis of the ruling power at the Moslem capital of Delhi, was maintained for a period of over three and a half centuries. Beginning in the last years of the twelfth century, five Mohammedan dynasties, one after the other, held sway, with the city of Delhi as the focal point of their domination and each has left substantial evidences of its architectural proclivities. Of this development the Moslem capital contains numerous examples of a most instructive description, but in addition to these, owing to its active existence having persisted for a much longer period, the city of Delhi and its environs provides a continuous record of architectural evolution upto the present day. Moreover, if apart from its buildings, certain historical relics are included, the city, or group of cities, may claim to illustrate Indian architecture from the time of the Mauryans, who ruled long before the existing era, to the modern productions of Lutyens and Baker at New Delhi, a period considerably over two thousand years. But the solitary records of ancient handiwork previous to the present millennium did not originate in Delhi itself, they were brought from distant parts, and erected in one or other of the eight cities as trophies by later rulers. Such are the shafts of two of Asoka's monoliths of B. C. 250, one standing on the Ridge, and the other in the Kotila of Firōz Shāh Tughlak, and the famous Iron Pillar at the Qutb of the fifth century A. D., transported from a site near Mathura (Muttra). As pointed out however, they are exceptional, for the actual architectural remains at Delhi were all executed within the period of the second millennium.

These examples of Indo-Islamic architecture at the capital of India illustrate every stage of the development of the style, from the initial conversion of temple materials into mosques and tombs by the first governors of the twelfth century to the vast compositions of the Mughul emperors, and even the anti-climax of its dissolution as represented by the mausoleum of one of the rulers of Oude in the eighteenth century. To the student of this important manifestation of the building art in India, Delhi provides material and opportunities of an unusual nature. And the quality of the examples thus presented is of a singularly high standard, as the following accounts of these buildings may indicate.

The earliest appearance of Islamic architecture in India and referred to as the *Imperial style*, may be divided into five phases corresponding to the five Mohammedan dynasties which prevailed in Hindustan from the twelfth to the sixteenth centuries. They are designated (1) Slave (A.D. 1191-1246), (2) Khalji (1290-1320); (3) Tughluq (1320-1413); (4) Sayyid (1414-1444); and (5) Lodi (1451-1557). In some of these dynasties there were one or more rulers who had a marked passion for building, and whose personality not infrequently imprinted itself on the productions of their reign "for therein stands the office of a king." Where, therefore, any monarch has definitely influenced the architectural mode of his time, the buildings with which he was concerned will be treated separately and described under his name.

None of the building activities of these rulers affected more materially the character of the subsequent architecture than those of the first dynasty, known as the Slave Kings of Delhi. This name has been given to the earliest Moslem rule in India, as its members were not of royal blood, but belonged to a system of slavery which at the time was an accepted practice with the majority of Mohammedans of high rank. No stigma was attached to this form of servitude, as such slaves often possessed great individual character and intelligence, so that it was not unusual for them to attain to positions of trust and power. Such was one of Mohammed Ghuri's slaves, Qutb-ud-din Aibak, whom that eastern Persian prince appointed as governor of his possessions in India in A.D. 1191, and few men elevated in a like manner have better justified the responsibilities which this involved. Officiating first as governor, Qutb-ud din established the Slave dynasty on the death of Mohammed of Ghur in 1206, when, assuming independence his reign was followed by a succession of nine other Slave Kings. Of this dynasty, Qutb-ud-din himself, and his son-in-law Shams-ud-din Iltutmish (Altumish), who ruled from A.D. 1211 to 1236, were the most active patrons of the building art, and their productions were of the utmost significance in laying the foundations of the style.

Qutb-ud-din lost no time in consolidating his power by proceeding to erect monumental buildings of stone on the site of the captured Hindu stronghold of Qal'a-i-Rai Pithaura, which he converted into the Moslem capital of Delhi. According to his chronicler "the conqueror entered the city, and its vicinity was freed from idols and idol worship, and in the sanctuaries of the images of the gods, mosques were raised by the worshippers of one God."[1] This epoch-making event, so badly stated may be amplified from other sources, as much the same procedure was adopted wherever the Muslim invaders established themselves. Maintaining the ancient tradition of the Arabs who, on founding their "*hirahs*," or camp cities in the course of their conquest, first marked out the area of the mosque, with a central place of assembly for the people, Qutb-ud-din put into practice a similar plan in the captured

[1] *Taj-ul Ma-asir* of Hasan Nizami (History of India by Elliot, Vol. II)

fortress. In the centre of the Hindu citadel was a large temple, which he ordered to be dismantled. Then, summoning to his presence the local workmen, he expounded to them the plan of the mosque, its extent and general character. Retaining intact the *chabbutra* or plinth of the temple, this stone basement was enlarged to double its original size in order to form a stylobate sufficiently spacious to accommodate the mosque, which was designed to cover a rectangle 212 feet long by 150 feet wide, the whole being enclosed by a wall and with cloisters around its four sides. To provide the considerable quantity of stonework such a scheme demanded, it is recorded that the materials of as many as twenty-seven temples within the neighbourhood were utilized, so that the same community of artizans, who probably some time before had been employed in raising these structures, now found themselves compelled to supervise the demolition of their own handiwork and to undertake its re-erection in another place, under entirely different conditions, and for a widely different purpose.

It will be realized that in such circumstances the first Islamic building in India of dressed stone was at its best mainly a patchwork of older materials, beautiful in detail, as its arcaded aisles were composed of pillars carved in the most perfect Hindu style, but as a whole a confused and somewhat incongruous improvisation. Briefly, this mosque consisted of a courtyard some 141 feet by 105 feet surrounded by pillared cloisters, three aisles deep, the short pillars from the temples being placed one above the other in order to secure the necessary height. On the west or Mecca side of the courtyard, the arrangement of pillars was made more spacious and elaborated into a series of bays with shallow domed ceilings, to form the sanctuary. And in front of the centre of the sanctuary was erected the famous Iron Pillar, but deprived of its crowning figure of Garuda, this remarkable example of indigenous craftsmanship having been torn from its original setting near Muttra, where it had already stood for over six hundred years. Then, as now, the interior structure of the Qutb mosque, although an assembly of elegantly carved stonework had more the character of an archæological miscellany than a considered work of architecture.

For two years after its hasty improvisation the mosque remained in this condition, when some idea of the shortcomings in its appearance occurred to those in authority, and that its inappropriateness could be overcome by the introduction of some important architectural element, more directly expressive of the mosque design. Accordingly in 1199 arrangements were made for an expansive arched facade to be projected across the entire front of the sanctuary on the west.

Apart from the æsthetic improvement produced by a structural frontage to the mosque, such an addition had the sanction of ancient usage. For as early as the middle of the seventh century the Caliph Othman felt a similar need in connection with the Prophet's Mosque at Medina, which at that time had only been in use for a few years. Here he caused a *maqsura* or screen of brick to be built, separating the sanctuary from the courtyard, and through the openings of which the congregation could view the Imam or leading priest conducting prayer.[1] In this manner the first step was taken towards formulating the design of the screen of arches which in one shape or another fronts the majority of the mosque structures east of Mecca. It was therefore something of the kind that Qutb-ud-din had in mind when he ordered the erection of a range of arches to screen the Hindu pillars of the sanctuary at Delhi. No spoils from existing temples could provide material for such a scheme, the whole of which would require to be original work, nor was any model or drawing apparently available as can be readily seen from the character of the building produced. For it is clear from its design and execution that those who fashioned it had no precise idea of what was required, they were Indian masons trying to work according to the verbal specifications of their overlords, or of a Moslem "clerk of the works." It speaks well for the innate genius of these artizans that under such conditions they were able to create a work of art of such originality, grace, and power. (Plate III, Fig. 1.)

When complete this screen as a whole formed a great wall of masonry over 50 feet in height at the centre, its width 108 feet, and with a thickness of 8½ feet. It was pierced by five openings, consisting of a large, central archway measuring 45 feet high with a span of 22 feet, while on each side were two lesser archways, each 25 feet in height. Above the side arches was a kind of clerestory having a series of four smaller arched openings, one over each of the side arches. There was however little attempt at articulation of the mosque composition as a whole, the screen was almost an independent object in itself, having but slight organic connection with the Hindu or low pillared sanctuary at its rear, and the clerestory was singularly inapplicable as it served no practical purpose either for lighting the sanctuary, or for anything else. As a matter of fact it provides an excellent illustration of a not uncommon circumstance in architectural evolution, when a traditional element appears in a scheme the real significance of which has been either forgotten or not understood. In this instance it is obvious that the screen was an attempt to reproduce the facade of the mosque design as it had been developed in Persia, but without adequate knowledge of its structural meaning, or its relation to the rest of the building. Yet putting on one side certain inconsistencies in principle, this screen of red sandstone is by itself a noble conception, its fine pointed arches with their ogee curves producing that effect of lightness necessary in such a massive volume. Then there is the rich pattern of carving with which its entire surface is covered, some of the designs being the loveliest of their kind. Ingenuously graceful is a border of spiral form, having a floral device within each coil of its convolutions, emphatically a Hindu conception, and contrasting with it are upright lines of decorative inscriptions, just as emphatically Islamic. Of the latter, the contem-

[1] *Maqrizi*, Vol. II, p. 248.

porary historian naively writes, "and upon the surfaces of the stones were engraved verses of the Koran in such a manner as could not be done in wax; ascending so high that you would think the Koran was going up to heaven, and again descending in another line so low that you would think it was coming down from heaven."[1] (Plate VII, Fig. 2.)

That this facade was of indigenous workmanship is obvious from its method of construction, a fact particularly noticeable by the manner in which the arches have been formed. Had there been an Islamic master builder present, it is highly improbable that he would have sanctioned these arches being put together on such a principle. For some centuries before this date, masons in all countries under Moslem rule had employed the true arch, inherited from the Romans, with its radiating voussoirs, but here the rudimentary system of corbelling out the arch was used. Moreover, the shape of these arches shows their ancient Indian lineage, as it can be traced back to the curved eave of laminated planking over a village hut, reproduced in the rock-cut facades of the Barabar hills in Bihar of the second century B.C., and then through the sun-window of the Buddhist chaitya-hall, but never a true arch, and always with an ogee curve. In its decorative capacity it appears as an arched recess on the Dhamek Stupa at Sarnath of the sixth century A.D., niches sunk at intervals for the reception of steel-shaped slabs containing sculptured images, the notch at the apex being cut in order to accommodate a staple, or wedge to hold the slab in position. Converted by enlargement into a curve, this notched apex is expanded into an ogee, or S shaped line in the screen arches of the Delhi mosque, but in later Indo-Islamic buildings the curve again reverts to a mere notch, as may be seen at the crown of the pointed arches in the Gujarat and other provincial mosque facades. This notch or peak in the pointed arch of Indo-Islamic buildings, wherever found, although insignificant in itself, may be regarded as the sign-manual of a distant Indo-Buddhist origin (Plate III, Fig. 1 and Plate IV, Figs. 3, 4, and 8.)

In addition to its artistic and architectural character, this mosque facade at Delhi stands forth as a remarkable historical document recalling by its range of arches the experiences of several of the world's great civilizations which rose and fell during the previous millennium. Its development can be readily traced. In its Indian form it was derived from the arcaded fronts of the brick-built mosques of the Persians, but these builders of the Caliphate had themselves drawn their inspiration from such Arabian structures as those at Ukaider and Samarra of the eighth and ninth centuries A.D. now crumbling into dust on the eastern borders of the Syrian desert. In their turn the Arabs borrowed the arched motif from the vaulted palace at Ctesiphon, the pride of the Sasanian kings of the third century, who again had acquired it from the palace of the Parthians at Hatra built near Mosul in the second century A.D. From Roman Syria it is but a step to the triumphal arches of Septimus Severus and of Constantine, under whose triple openings the Roman legions tramped. Throughout the architectural schemes of all these historical movements, over centuries of time and across two continents, this system of arches persisted, much in the form it appears at Delhi, of one great central opening, with lesser ones on either side.

The Hindu fortress of Qal'a-i-Rai Pithaura, although recorded as the first of the seven historical cities of Delhi when captured and occupied by Qutb-ud-din Aibak, was by no means the important strategic and political centre that it afterwards became. To this first Mohammedan governor must be given the credit for realizing the maxim that "he who holds Delhi holds India," and he it was who began to elevate it into the key position of the country. He had already designated his mosque the Quwwat-Islam, or "Might of Islam," indicating that he was fully conscious of the spiritual force it signified, but something even more spectacular seemed to be required as a concrete symbol of this ruler's abounding sense of exaltation at his growing power and of the omnipotence of the Faith that inspired it. Accordingly in the last year of the twelfth century, Qutb-ud-din laid the foundations of a structure, which, when completed, became one of the most remarkable architectural monuments ever produced. This was an immense and lofty tower, the Qutb Minar, originally some 238 feet in height, its primary object being that of proclaiming to the whole world the prestige and authority of Islam (Plate V.) Its royal builder had no doubts as to the great ideal such a monument embodied, for the word Qutb by which it was known, signifies a pole, an axis, and thus the pivot of Justice, Sovereignty, and of the Faith. And that this was so is shown by the inscriptions carved so beautifully and boldly on its surface, which plainly announce that it was erected in order to cast "the shadow of God over the East and over the West." Although this stupendous production did not mark the terrestrial meridian of the religion it represented, it certainly indicated like a triumphal standard one of the eastern limits of Islamic influence; it is noteworthy that at practically the same time an equally ambitious Moslem ruler Yusif I, was raising at Seville in Spain, another noble tower, even higher than the Qutb, the Giralda, defining the extreme western limit of the creed, with the entire extent of the Mohammedan world between the two.

But minars, towers, columns, and similar high erections were common features in Islamic architecture particularly in western Asia, where pillar-like minars, often raised as isolated structures, are found in the vicinity of many towns, as frequently seen in Northern Persia. Most of these are built of brick or rubble, and are round in section, although they are occasionally fluted, while certain examples at Ghazni in Afghanistan, the nearest site from Delhi, have a star-shaped plan with other characteristics which may have suggested the design of the Qutb Minar. None of these however either in size or intention can compete with this Indian monument which is unique, there is nothing like it in the

[1] *Taju-l-Ma'asir* of Hasan Nizami (History of India by Elliot, Vol. II).

whole range of Islamic art. Such a building was made possible by the inspired vision of Qutb-ud-din Aibak, and realized through the creative genius of the Indian workmen. That this Tower of Victory also served an important but supplementary purpose should be recorded as it formed the minar of the mosque which lay at its feet, and from its balconies the muezzin made his call to prayer. In this it followed an ancient Arabian tradition. Situated at it was outside the original mosque enclosure, and to the left of the main entrance, it occupies relatively the same position as the minars in some of the most venerated mosques of an earlier time. Such is that at Samarra in Iraq, the Ibn Tulun in Cairo, and that at Raqqah in Syria, all dating from the eighth and ninth centuries, although in the case of the last named the minar is not an external structure but stands within the courtyard. As the mosque plan developed, a more symmetrical design became the custom, and, later, the minars were not separate from but attached to, and formed part of the architectural scheme, usually the facade of the main building.

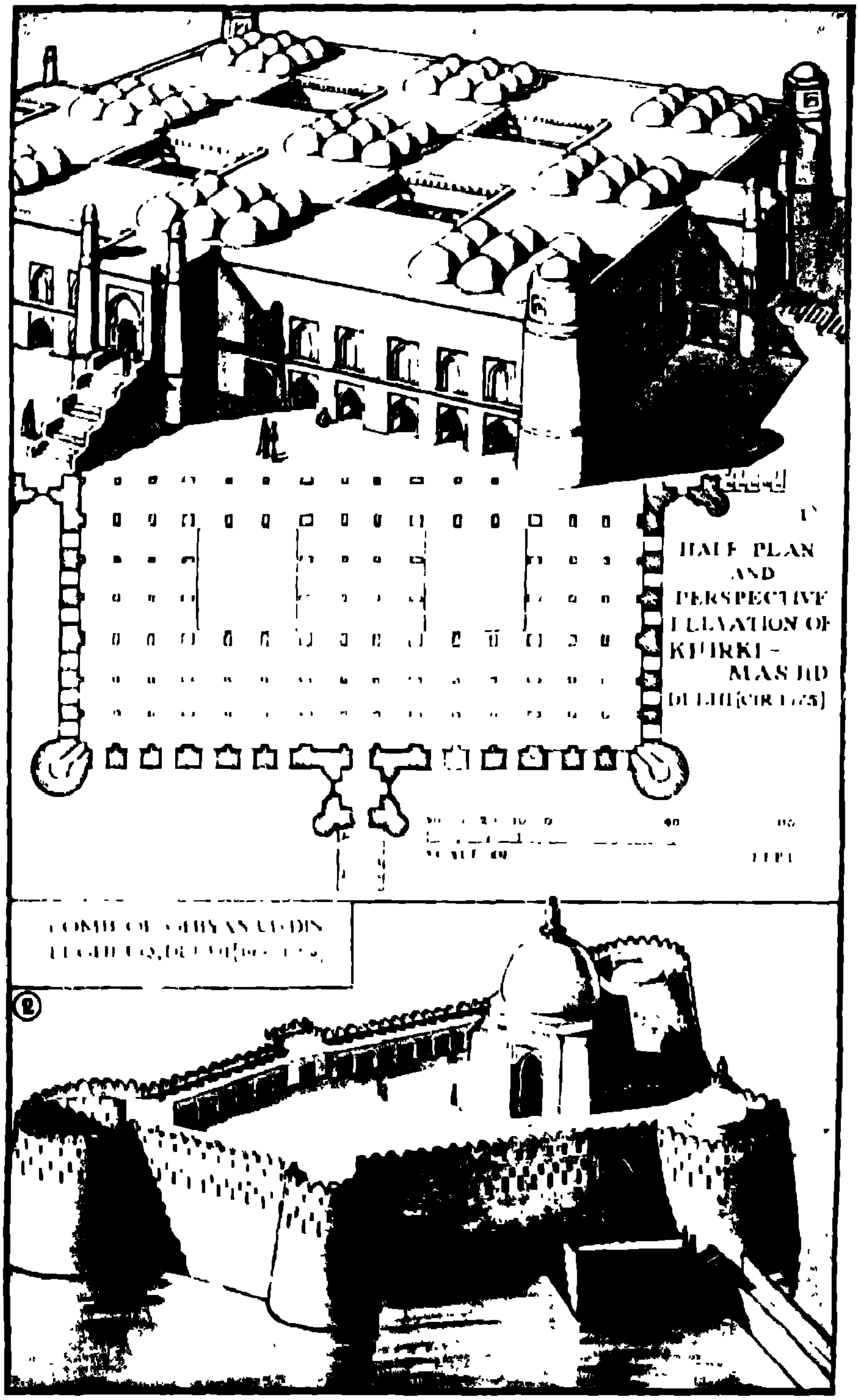
As originally completed, the Qutb Minar consisted of four stories diminishing as they ascended, with a projecting balcony dividing each stage. The three lower stories have remained untouched, but the fourth, or uppermost storey was composed of a circular kiosk with window openings and a domical roof crowning the entire structure. Renovations at later dates have produced an additional upper storey, not to its improvement, but nonetheless increasing the height and changing its appearance and proportions. In plan the tower is circular, the base being 46 feet in diameter, and it tapers to a width of 10 feet at the summit. Each of its four stages is a different pattern in section, the lowest having stellate, or wedge shaped flanges alternating with rounded flutes, the second has circular projections, the third is star-shaped, while the fourth is simply round. On the northern side it is entered by a doorway, within which a stairway spirals its way up to each balcony, finishing with a platform on the uppermost storey. In its artistic aspect the most elegant features of the monument are the balconies, and the method designed for their support. When first built, the balustrade around these balconies took the form of stepped battlements or merlons called *kanjuras*, a fragment of which showing the pattern still survives as an ornamentation over the doorway. The ancient ancestry of this distinctive motif may be realized when it is seen to figure in the architecture of the Assyrians on the Palace of Sargon, Khorsabad (B.C. 722-705). Even more original is a system of stalactite bracketing underneath the balconies by which these projections are supported and their weight transmitted to the body of the structure. Stalactite vaulting, so characteristic of the architecture of several Islamic styles, is rare in India, and when found is of a special kind. Here it is represented by means of a cluster of miniature arches, or small alcoves, with brackets in between, an attempt to reproduce the true geometrical stalactite effect, but obviously influenced by the cusped tracery in the indigenous designs of the temple-ceilings. In a further effort to obtain the stalactite semblance the little alcoves are patterned with a network like honey-combing, the entire treatment suggesting that it was prepared not from models, but from a description conveyed to the workmen by work of mouth, as were not a few of the Islamic features introduced at this early date. Seen from any point of view the Qutb Minar as a whole is a most impressive conception, the vivid colour of its reds sandstone, the changing texture of its fluted stories with their overlay of inscriptional bands, the contrast between the alternating spaces of plain masonry and rich carving, the shimmer of the shadows under the balconies, all combine to produce an effect of marked vitality. Then the tapering cylindrical appearance was purposely designed in order to give the whole an upward impulse and the illusion of increased height. But perhaps its most pronounced quality is that of stability, absolute and immutable, its very shape decreasing as it rises on much the same principle as the pyramid, illustrating, as was intended, man's highest endeavour to make his handiwork timeless.

One more important structure has been attributed to Qutb-ud-din, in this instance not at Delhi, but at the subsidiary stronghold of Ajmir in Rajputana. Here, shortly after its occupation by the Muslims, the same course was adopted as at the capital city of dismantling a large number of the neighbouring temples and re-erecting them in the form of a mosque. On a terrace levelled out of the sandstone hill-side, probably the site of an old established *mela* or fair-ground, which lasted two-and-a-half days, hence its curious name of *Arhai-din-ka-jhompra* (hut of two-and-a-half-days), the construction of this mosque was begun about 1200 A.D. Prepared in the same manner as that at Delhi, the previous experience gained there enabled its creators to evolve a building which although mainly a compilation of Hindu materials, was a better organized conception. Moreover, as it covers more than twice the space occupied by the Delhi mosque it was on a much larger scale, thus allowing additional scope to its designers. The result is a gracefulness in its slender pillars, finer proportions in its columned aisle, and a more finished adjustment of its roofing. Increased height was obtained by superimposing not two, but three of the Hindu shafts to form each pillar, so that the ceilings are twenty feet from the pavement. Owing to its position on high round it was possible to include in the scheme some appearance of an exterior frontage on the outside of its eastern wall. This was provided by a tall stair-way in four flights mounting up to a portico at the main entrance, with a fluted minaret at each end. For some time the interior of the mosque consisted of merely an open colonnade surrounding its courtyard, but afterwards, as at Delhi, an arched screen was built across the front of the sanctuary to form a facade. As this facade was added during the reign of Qutb-ud-din's successor, Shams-ud-din Iltutmish, it will be described with the works of that ruler. (Plate VI.)

The second great building monarch of the Slave dynasty was Shams-ud-din Iltutmish, during whose reign from A.D. 1211 to 1236, four important architectural works are recorded. They are (1) the addition






HALF PLAN
AND
PERSPECTIVE
ELEVATION OF
KHIRKI-
MASJID
2

of a facade to the Ajmir mosque mentioned above, (2) a grand extension to Qutb-ud-din's mosque at Old Delhi (finished in 1229), (3) the tomb of his son (1231), and (4) his own tomb, both in Old Delhi. Of these, the building which makes a notable contribution to the architecture of the period is the mosque facade at Ajmir, clearly inspired by his predecessor, Qutb-ud-din whose similar addition to the mosque at Delhi, is in much the same style. In point of time an interval of possibly a quarter of a century separates the construction of these two mosques fronts, and the differences in detail mark the course of the art during this progressive period. In the Ajmir example there is no upper storey or triforium, but above the parapet over the main archway are fluted minarets, one on each side. The outlines of the main arches in the two structures differ, those at Ajmir are less curved in contour, having been straightened to approach more nearly to the four-centred type, or what is commonly referred to as the Tudor Gothic, a shape almost invariably found in the later Indo-Islamic style. Then there are the smaller side arches, four of which are of the multifoil pointed variety, a type rare in Indian architecture but probably derived from Arab sources, as seen in the eighth century mosque at Ukaider in Iraq. But it is in the character of the surface decoration that the principal change is seen. Gone is the exquisitely modelled floral decoration supplied from the repertory of the indigenous workmen at Delhi, and in its place, wherever an inscription is not required, conventional patterns of a rather stylized and mechanical order are introduced. The free and flexible handiwork of the Hindus, as expressed on the Qutb-screen, has become rigid under the more strict application of the Koranic prohibition. Nonetheless the Ajmir screen is a fine work of art, with its seven arches extending over a width of 200 feet, its central parapet 56 feet high and its masonry nearly 12 feet thick, all combining to give the front elevation of this mosque an appearance of great elegance and dignity. One detail of the arcade is of historical interest. This is a small rectangular panel in the spandrel of each archway, a survival of a system of lighting which prevailed in the ancient mosques of Arabia, originally a structural feature, but here reappearing centuries later as a purely decorative motif, although in an identifiable form.

But Shams-ud-din's principal architectural activities were at the imperial capital, for exactly thirty years after the somewhat hasty construction of the first mosque at Old Delhi, he proceeded to enlarge the original place of prayer erected by his predecessor. Debarred by the strict tenets of his creed from demolishing and rebuilding this mosque, he had to content himself with retaining the original structure, but enveloping it within a much more spacious courtyard, and by extending the screen of arches on either side, in a word, doubling the entire conception. From such evidence alone it seems fairly clear that the Islamic population of the imperial capital had very considerably increased during this relatively short period. Except for its size there is nothing specially notable in the remains of Iltutmish's great extension, as the cloisters are merely a plainer replica of the previous scheme and the screen also simply duplicates the existing range of arches only to a larger scale. Yet the detailed treatment of these arches is informative. In construction they are still built on the indigenous principle of oversailing courses, but there is a change in shape, the ogee curve giving place to a simple arc, so that they are what is known as equilateral arches, and not very dissimilar from the pointed arch of the Decorated Gothic style appearing about the same time in England. As in the other mosque facades of this type the surface is richly carved, but in patterns of much the same conventional order as those at Ajmir, with which it was more or less contemporary. Standing as they do in juxtaposition, a comparison between these two arcaded screens at Delhi is a simple matter, and although in their dates they are separated by a generation, the difference in both technique and temper is illuminating. The alteration in the shape of the arch may be regarded as an advance, as the curves are firmer and more decided than those of the earlier type. But the character of the plastic art records no marked progress, only a change. Its free spirit has left it, and it is now being required to conform to the more conventional perceptions of the new overlords.

There now appears in the architecture of India a type of building, in form and intention hitherto unknown, as it is the first example of a monumental tomb, erected by Shams-ud-din over the remains of his son Nasir-ud-din Mohammed, in A.D. 1231. (Plate VII, Fig. 1) Built in the manner of a walled enclosure, and in rather an isolated position some three miles from Delhi, it seems not unlikely this building was regarded as a shrine to which the members of the family could repair for devotions on certain occasions. Such a custom has been associated with royal tombs of several countries, as early as from the time of the ancient Egyptians. The Sultan Ghari, or "Sultan of the Cave" as the tomb is locally called, is so named because the cenotaph is in an underground chamber, and the entire scheme is designed in such a manner that it would provide a suitable retreat for minor ceremonials. Privacy on these occasions was assured, as the enclosure was contained within a substantial masonry arcade, the whole being raised on a high plinth with a massive portal on the eastern side. This exterior which is built of grey granite with circular bastions projecting from each angle of the square, has such a grim and martial appearance that one of its more remote purposes may have been to serve as some kind of advanced outwork to the main fortress of the capital. But immediately the gateway is passed this impression ceases, as the design of the interior is one of refinement and peace. Within the walled enclosure is a square courtyard of sixty-six feet side, in the centre of which is an octagonal platform, forming the roof of the tomb chamber below. So incomplete a central feature can only be explained by the fact that this platform was designed to support a superstructure, probably a pillared pavilion with a pyramidal roof, the whole of which has disappeared. That the arrangements of the courtyard were of a singularly attractive and artistic character, is shown by certain architectural structures of white marble built against the grey granite walls. These consist of two pillared arcades on the

east and west sides, that on the latter being the more important as it resolves itself into a small, but very complete mosque sanctuary. This miniature place for prayer has a central domed nave containing a *mihrab* formed of an elegant foliated arch, with aisles on either side, the whole fronted by a colonnade of marble pillars. With the exception of the *mihrab*, which is original and Islamic, the sanctuary, including the domed ceiling, is clearly of Hindu extraction, an exquisite grouping of well proportioned fluted pillars having bracket capitals. It is true the entablature may be a little too heavy for its supporting columns, and the pyramidal roof above is of somewhat elementary outlines, but there is ample evidence that, when the interior of this courtyard was complete, with its octagonal pavilion on marble pillars forming the central effect, it was a remarkably graceful architectural composition.

In view of the rarity of these early examples of Indo-Islamic architecture, and the contribution each makes to the development of the style, every building erected during the supremacy of the Slave Kings possesses interest and value. Of the lesser known productions is a group of three structures at Badaun, an ancient town some one hundred and fifty miles south-east of Delhi, its relation to the imperial capital being not unlike that of Ajmir, a subsidiary centre of administration. The three buildings are the Hauz-i-Shamsi, the Shamsi Idgah, and the Jami Masjid, and from their names it is clear that they owe their construction to the Slave King Shams-ud-din Iltutmish. It is the mosque that is architecturally important, as it is one of the largest and most substantially built examples of its kind, the width across the front measuring as much as 288 feet. Owing to repeated restorations at different intervals it is now an illustration of a combination of several architectural styles but there is still some of the original fabric remaining as when it was built in 1223. A century later it was extensively reconstructed by Mohammed Tughlak, and again, owing to damage by fire, parts were rebuilt during the reign of Akbar about 1575. It is regrettable that in the last restoration made comparatively recently,[1] the eastern gateway with its archway, which was of the same type as those in the screen of the Qutb mosque, was dismantled. In the arcaded cloisters around the quadrangle, as well as in the tapering turrets engaged on the outside quoins one can distinguish the renovations by Mohammed Tughlak; from their style also it is clear that the domes over the sanctuary were those replaced at the order of the Mughul emperor Akbar.

Another building of much the same date but more distant and to the south-west of Delhi, is a lofty gateway in the old town of Nagaur, Jodhpur State. This Atarkin-ka-Darwaza is decorated with sculptured patterns corresponding to those on the facade screen of the Arhai-din-ka Jhompra at Ajmir, and were probably the handiwork of the same group of artizans who produced the latter mosque as it is in that region; its date therefore may be about A. D. 1230. As in the case of the mosque at Budaun it has been restored once in the reign of Mohammed Tughlak (1325-51) and again some additions were made in the sixteenth century. Bayana in Bharatpur State, a one-time famous city, where there is a temple, the Ukha Mandir, also has an architectural association with the regime of the Slave Kings. Formed of temple spoils into a mosque apparently during the reign of Shams-ud-din Iltutmish, it had pointed arches corbelled out in the shape and manner as at the Qutb mosque at Delhi. Then, when the tide of Islamic supremacy turned in these parts, at a later date it was converted again into a temple.

It is fitting that the culmination of the building art during the reign of the Slave King should be his mausoleum, erected some time before 1235 (Plate VIII). Situated outside the north-west angle of his mosque extension at Old Delhi, it is a square, compact structure of forty-two feet side with an entrance doorway on each of its three sides, the western side being closed to accommodate a series of three *mihrabs* on its inner face. Except for certain finely inscribed patterns and borders concentrated around the pointed arches framing the doorways, the exterior is relatively plain, a condition not improbably due to most of the outside being left unfinished. As a contrast however, the interior, a cubical hall of thirty feet side is so elaborately sculptured that it rivals some of the Hindu temples in rich decoration especially as its sandstone walls are relieved with insertions of white marble. Extracts from the Koran in Kufi, Tugra, and Nashtalik characters are the principal motifs, although geometrical and conventional diapers are interspersed, but as a scheme of inscriptional mural decoration this interior is an exceptionally fine example.

Not a little of the interest in this building lies in the principles employed in the construction of its roof, which, although most of it has fallen was probably some form of shallow dome. Curved fragments lying in the vicinity, imply that it was of the indigenous type, composed of concentric rings of masonry, but owing to the excessive span it was unable to carry its own weight, so that it collapsed. In the upper corners of the interior however, there are the remains of the method by which the circular rim of the dome was supported at the place where it crossed the angle of the square hall that it roofed. Here is the earliest, if not the first attempt in India to solve the problem, inherent in the majority of domed buildings, of devising a consistent and organic union between the rectangular shape of the compartment below on the one hand, and the circular base of the dome above on the other. This problem is known technically as the "phase of transition," and several systems have been invented by which it could be solved, and the difficulty it embodied, both artistically and scientifically overcome. During the course of the development of the dome in India it will be shown that various methods at different times were adopted, but the particular form employed in Iltutmish's tomb was that known as a "squinch." (Plate X)

[1] Cunningham's *Archaeological Survey Report* 1875-76 Vol XI, Plate III

The squinch system consists of projecting a small arch, or similar contrivance across the upper part of the angle of the square hall, thus converting its square shape into an octagon, which again if necessary, may be transformed in the same manner into a sixteen sided figure, a convenient base on which the lower circular rim of the dome may rest without leaving any portions unsupported. In this instance the squinch takes the form of a small vault, or half dome, with an arch on its outer and diagonal face. Such a method was not uncommon in the early Islamic buildings of several countries, apparently derived from Sasanian brick buildings of the fourth century, but the process here represented is a typically Indianized version. For it contains neither a true vault nor a true arch it is all planned on the traditional procedure of overlapping courses, which although technically unscientific, provides an example of a singularly effective and artistic solution.

With the tomb of Iltutmish the story of Indo-Islamic architecture under the Slave dynasty closes, and for a period of some sixty years, with one exception, no structures of any importance appear to have been produced. The exception emerges during the rule of the "House of Balban," a short and supplementary dynasty that was in power at Delhi from A.D. 1266 to 1287, and the building concerned is the tomb of Balban himself, the founder of this brief regime. Dating from about 1280 it is now a ruined and unattractive edifice on the south-east of the Qal-'a-i-Rai Pithaura, but on account of its construction is a notable landmark in the evolution of the style. For in this building for the first time in India we meet with the true arch produced by means of radiating voussoirs, a fact of more than ordinary significance. In spite of the coarse nature of the masonry, which is a rubble foundation covered with cement, this tomb, consisting of a square domed chamber thirty-eight feet across, has an archway on each of its sides, each arch put together and bonded on the scientific system originally formulated by the Roman engineers. Such an innovation was a clear intellectual gain, and it is therefore not what this building is that is important, but what it signifies. In its narrow aspect it meant a definite advance in structural practice, but broadly it indicated something much more. It marked a positive step forward in socio-political evolution under the Islamic regime. No longer was the movement towards India confined to military adventurers desirous of exploiting the country to their own personal advantage, for Delhi was by this time becoming a city of repute, of wealth and influence, a centre of attraction to men of distinction, culture and learning, possessed of wide scholarship, practical knowledge, and technical skill. Among them were master craftsmen and other trained artificers prepared to introduce the procedure and usage of other lands. The arches in Balbans' tomb—although, appearing in such an unobtrusive manner—are proofs of this trend. And, as will be now shown, they prefigure the beginning of a short but brilliant phase of the building art, different from anything that preceded it and having notable implications.

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Chapter IV

THE DELHI OR IMPERIAL STYLE: THE BUILDINGS OF THE KHALJI DYNASTY

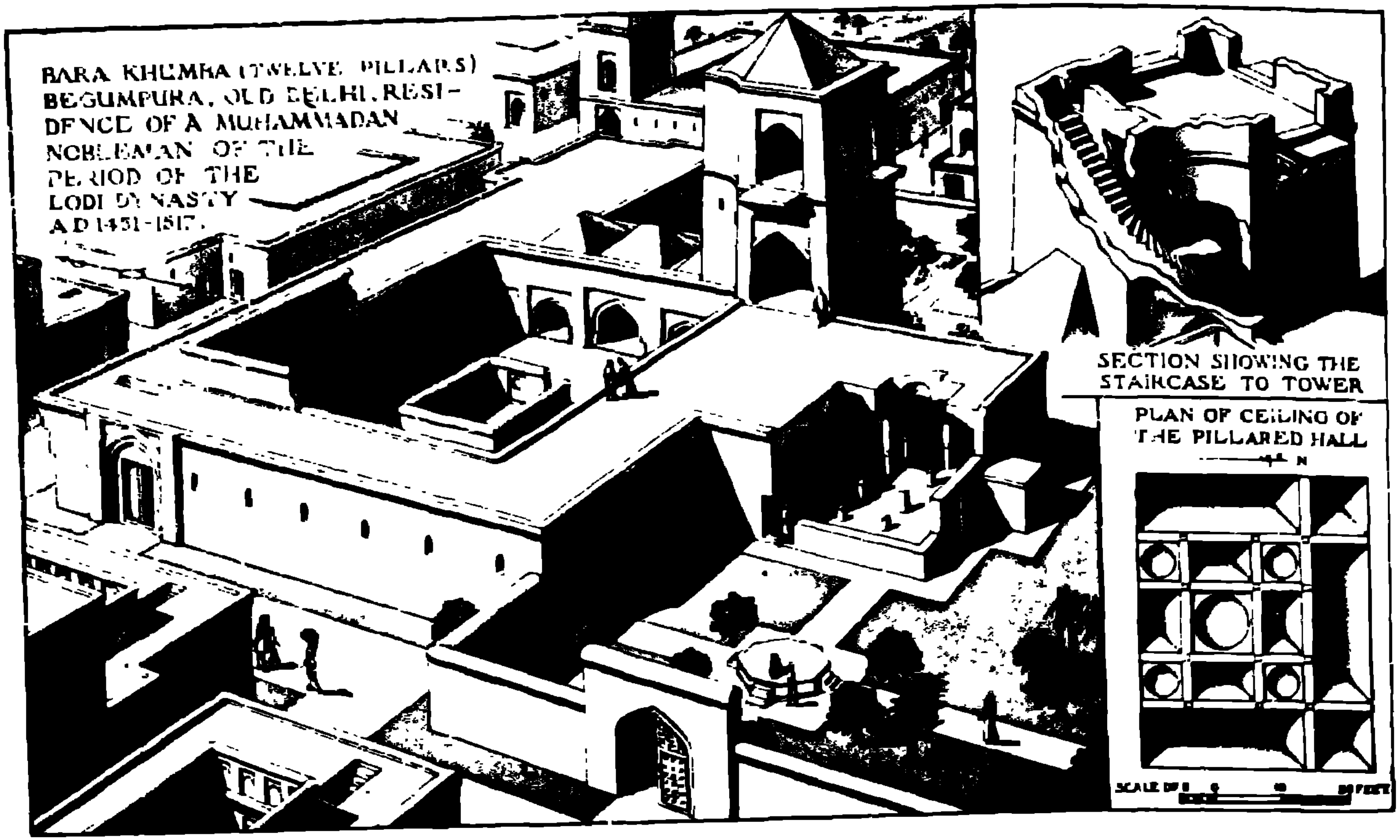
(1290-1320)

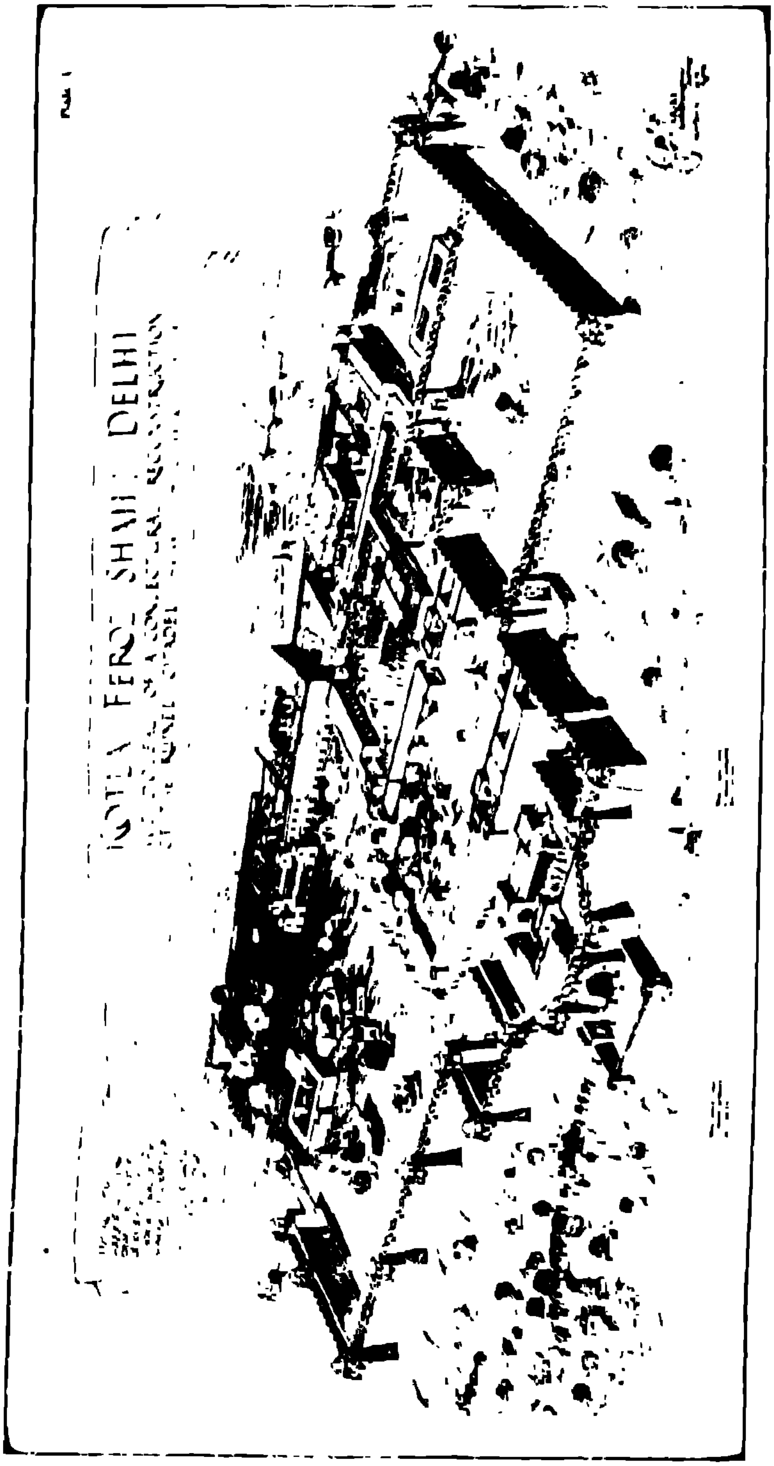
AFTER the death of Shams-ud-din Iltutmish of the Slave Dynasty in 1234, except during the short rule of the House of Balban, with the significant appearance of the true arch, no buildings of any consequence were undertaken until the rise of the Khaljis in the last years of the thirteenth century. For nearly three quarters of a century, therefore, at this formative stage of the building art in India, little progress was made. Then there arose to power this dynasty of Afghanized Turks from the village of Khalji, near Ghazni, and with the third of the line, Ala-ud-din Khalji, who ascended the throne of Delhi in 1296, a decisive advance in the field of architecture took place. This ruler's most important building project consisted of a scheme to construct an immense congregational mosque at the Qutb, which was to include within its perimeter the two mosques already erected by his predecessors, the whole being concentrically disposed, but with the largest enclosure extending towards the northern end. Within this spacious northern area he proposed to raise a colossal minar, its proportions double those of the one set up by the Slave Kings a century before. It must have been obvious to anyone with vision less obscured by self-exaltation than its royal promoter, that such a grandiose conception could not possibly be accomplished in one generation, and at a relatively early stage of its construction his death in 1316, put an end to further progress. As the foundations and main walls of the mosque are still discernible, most of its parts being plinth high, while the huge inner core of rubble of the minar rises up nearly one story, some idea of the architectural aspirations of this forceful but relentless monarch may be estimated.

Of this great project, and in strong contrast to the bulk of its unformed masonry, one relatively small portion has, however, been carried to completion, one of its buildings having been definitely finished, thus providing an illustration of the architectural style it was intended to employ in the composition as a whole. This structure is the southern entrance hall to the courtyard, a self-contained building known as the Alai Darwaza or Gateway of Ala-ud-din, and the date of its erection was 1305 (Plate IX). From the character of its architectural treatment and particularly from its form and construction, it is clear that some fresh influence was at work, and that the assistance of experts from other and more matured developments of the building art had been requisitioned to effect such a marked and speedy progression. For in its composition there are distinct evidences of intelligent supervision or the direction of someone with a knowledge of architectural procedure only acquired after long years of accomplishment and right application. All this may be seen in the various qualities of the Alai Darwaza, particularly in the shape and inventiveness of the arches, in the method of its walling, in the system of support for the dome, in the conception of the dome itself, and in the design of the surface decoration, all of which are executed, not with uncertainty or in an uninformed manner as heretofore, but with the understanding and assurance of the practised hand. So original and distinctive is it in style that the question naturally arises, from whence was this fresh impulse derived?

The answer is implied in almost every part of its structure. The architectural culture which found its way at this juncture into the building art of Delhi, was an offshoot of that prevailing in Asia Minor during the first centuries of the second millennium, and produced under the far-reaching rule of the Saljuqs. As their mosques and other buildings prove, this Turkish dynasty which has inherited the traditions and power of the Arabian caliphate, employed the most artistic and skilful architects, whose finest and best known efforts are to be found in and around the ancient city of Konia (Iconium) in Anatolia, the seat of the Saljuqs of Rum. The domination of the Saljuqs, however, in its widest sense extended over the greater part of Western Asia, as they re-united under their rule the Moslems from the mountains of the Hindu Kush on the north-west frontier of India to the Mediterranean Sea, and the influence of their architectural activities spread throughout the whole of this region and even beyond. It is to the stone and marble structures prepared to the order of these powerful rulers that an affinity to the Alai Darwaza at Delhi is discerned. Although there may be little correspondence in the actual forms, yet the Indian example is of the same general texture, aims at the same effects, and is animated by the same spirit as the Western Asian development. And the manner in which this art was conveyed to the imperial capital of Moslem India is a matter of history. For with the overwhelming invasion of the Mongols came the dissolution of the empire of the Saljuqs, causing its people to be dispersed into other countries in search of security and support. India was threatened and in fact partly invaded, but preserved from the full force of the Mongol inroads, and Delhi was thus enabled to give shelter to the refugees. Among those compelled by such circumstances to find protection under the Khalji kings, were men of learning, and others skilled in the arts, and by these means, the culture of the Saljuqs, together with the form of architecture that they had made their own, was brought to the Indian capital.

A relatively small but interesting record of the association with the building art of Western Asia is provided by the appearance in the structural productions at Delhi of this period, of a method of stone masonry of an unusual and determinative character. The process


BARA KHUMBA (TWELVE PILLARS) BEGUMPURA, OLD DELHI, RESIDENCE OF A MUHAMMADAN NOBLEMAN OF THE PERIOD OF THE LODI DYNASTY A.D. 1451-1517.
SECTION SHOWING THE STAIRCASE TO TOWER
PLAN OF CEILING OF THE PILLARED HALL
N


KOTLA FEROZ SHAH : DELHI

consisted of laying their masonry in two different courses, a narrow course of headers alternating with a much wider course of stretchers, the former extending well into the rubble hearting, thus interlocking the whole into a firm bond. A similar system of construction is observable in the Parthian palace of Hatra (El Hadra) in Iraq, of the second century A. D., and in some of the buildings of Syria. Seeing that a period of more than a thousand years separates the Parthian example from those of the Khaljis, and also that Hatra and Delhi are over twice that number of miles apart, any theory of derivation cannot be pressed far. But it should be remembered that the process of building in the region between the two civilizations was mainly in brick and rubble, and that the nearest country to India, where dressed stone was invariably used, was that of Parthia, and later, Syria. Whatever its origin, that this particular method of walling should appear at such a time as an innovation, is of no little significance. And what is also important is that it was a structural system which came to stay, for it was developed until it became the pattern of masonry of more than one subsequent period and at a still later date is noticeably characteristic of the building technique of the Mughals.

It will be realized from the foregoing that this entrance gateway to the mosque of Ala-ud-din Khalji occupies a key position in the evolution of Islamic architecture in India. As a provincial or Indianized form of the building art of the Saljuqs it is itself of pronounced consequence, but it is also of importance as certain salient features of its composition were reproduced in the styles that followed, altered and adapted to accord with such changing conditions as from time to time occurred. But although some of the qualities of this Western Asian culture may be detected in the building art of the Khaljis its actual identity was soon obscured as one form of architectural expression succeeded another or other influences prevailed. Yet certain elements belonging to this movement persisted and may be recognized, as for instance the "spear-head" embellishment of the arch, but most of its distinguishing attributes became gradually merged into the architectural style of the country as it began to take definite and permanent shape.

One factor noticeable in the Alai Darwaza is that those responsible for its design and execution were by no means committed to working in one established style. For its chief characteristic, and one on which much of its beauty depends, is that in spite of its essential nature being exotic, it embodies many purely indigenous features as throughout its fabric there runs the Indian manner, sometimes in the form of a mere border, at others comprising considerable parts of the pattern. It is the skilful fusion of the best of the two modes that has produced in this building such an outstanding work of art.

Referring more specifically to the edifice which is the source of this digression, the Alai Darwaza was erected to serve as one of four entrances to the mosque, two of which were to be on the long eastern side and one each on the north and south. The only one completed is this southern entrance, and detached as it is from any comprehensible plan, being not more than a fragmentary portion of the whole as originally designed, it becomes rather an isolated structure without much meaning as it exists at present. Moreover, it seems a little strange that, while the rest of the conception is so utterly unfinished, this subsidiary building is complete in all its parts. Either the execution of the doorway was specially expedited in order to provide a formal entrance through which the ruler could pass to view the progress of the work, as his royal residence was in the southern quarter of the capital, or it was set up as a model of the architectural intention of the whole. In any case it can be stated with certainty that had the remainder of the project matured in the style of this example, it would have been one of the most artistic structural achievements produced under Islamic rule.

In spite, however, of appearing fairly complete, on investigation it will be found that the Alai Darwaza has suffered not a little during the six centuries of its existence, although its strong and rational construction has helped in its preservation. For, as originally built, attached to its northern face and within the mosque courtyard was a pillared portion carrying a small dome, the addition of which would have given a more elegant effect to its inner side. Then the outer, or south facade has been restored, so that the parapet is all in one line, a recent effort at conservation which is incorrect, as the coping of the central rectangular bay should rise higher than the wings. Further, extending from the sides were ornamental walls connecting with the pillared cloisters of the courtyard, thus supplying the requisite finish to the composition. What now remains is the main central hall only of this gatehouse, a cubical structure of fifty-five side feet in plan, with a total height to the top of its domical finial of over sixty feet. In the middle of each side is a doorway flanked by a perforated stone window, each doorway opening into the single inner room, which is a hall of thirty-six feet side with a domed ceiling.

These dimensions will give an idea of the proportions of the Alai Darwaza, and show that it is a building of very moderate size. But it is by the confident manner in which its parts are architecturally co-ordinated that the experienced hand of the master is visible. In design the three outer faces are much alike, each containing a tall archway over a flight of steps leading to the higher floor of the interior. Below is a plinth, its vertical sides elegantly carved in varied bands, while the surface of the wall above is divided into two stories and then again into upright rectangular panels, the two lower being arched recesses with stone grilles. All this is intelligibly executed in a combination of red sandstone and white marble, with arabesques and decorative inscriptions enriching the whole. Yet the outstanding gracefulness of its facades lies in the shape of the arches, particularly of the central opening which, in the refined quality of the curves, the proportions of width to height, and the method of embellishment show Islamic architecture at its best. The type of arch here presented is

that known as the pointed horse-shoe, or "keel," a rare kind not ordinarily used, and, as a matter of fact it does not find a place in any of the buildings after those of the Khaljis. Moreover the system of its construction is that of radiating voussoirs, so that it is of the "true" variety, and as it is formed of dressed stone is a distinct advance on the rough rubble arches of the previous regime.

In addition, however, to the shape of the arch in the Alai Darwaza, its decorative treatment emphasizes its beauty of form. Around its outlines is a band of inscription carved in white marble, while on the under side, or intrados, is a "fringe" of spear-heads, and in the spandrels are sockets which once contained projecting bosses, typical of the archways in the buildings of the Saljuqs. Supporting the arch are slender nook-shafts, carved and moulded, and the whole is contained within a rectangular frame work bordered with repeating patterns and inscriptions in white marble. So skilfully balanced is the coloured plastic scheme that although all the surfaces are most intricately carved, some in low relief, others deeply incised, the appearance is not cloying or fatiguing to the eye. The character of this decoration is a study in itself; it has not that delicate play of surface or variety of modelling seen in the relief ornamentation on the screen arches of Qutb-ud-din's executed by indigenous hands a hundred years before, as its treatment is formal and conventional, but many of its borders and repeating designs are clearly of Indian extraction, in a technique having a stencilled effect, but so cleverly adapted to their purpose as to fall quite naturally into their proper place.

Such is the architectural composition of the three outer facades of the Alai Darwaza, which as a whole is in accordance with Islamic ideals, but the inner, or fourth side on the north and within the missing pillared portico, there is an obvious departure from the orthodox. In the design of this particular doorway it is clear that the indigenous workman has been allowed to dictate, for the opening is not a pointed arch but semi-circular in shape, with a shallow trefoil forming its outline, all contrary to Islamic convention, and all elaborately patterned with that sensuousness and repetition of motifs associated with the former building art of the temple.

In some respects the interior of this building is even more informative than the exterior. Apart from the expert manner in which the domed ceiling has been constructed on the same principle as all the arches, the system by which its weight has been transferred from its circular rim to conform with the shape of the square hall below is as artistic as it is practical. In this "phase of transition," always the test of intelligent construction, the squinch arch has been employed, and here also the method is that of radiating voussoirs as in all other parts of the building. But the construction, excellent as it is, is surpassed by the artistic manner in which it has been effected. Above, in each angle of the hall is an alcove, or semi-vault of pointed arches similar in form to those of the exterior, and by recessing these one within the other, a support is formed, so that the circle is changed to the octagon, and the octagon to the square, and thus gracefully and competently the load of the dome is conveyed to the ground. The arched pendentives, however, are only part of the arrangements of the interior of the hall, there are perforated stone windows at the sides corresponding to the arched recesses of the exterior, and the walls are covered with arabesque designs carved in low relief, with other embellishments all aesthetically perfect and sincere. (Plates IX and X, *Fig.* 2.)

Several other architectural compositions were produced during the rule of Ala-ud-din, including the city of Siri, the second of the seven cities of Delhi, which he began in 1303, but the remains are so fragmentary that they are of little consequence. On the other hand among a group of crumbling structures outside the western angle of the Qutb area, there are certain buildings erected during this monarch's reign, one of which is believed to be his tomb. Another has been identified as a college, but all are too ruined to add much information as to the progress of the style. Yet it is possible from them to see that constructional practice was exercising very actively the minds of the builders, as shown by the character of the masonry, and specially by the various expedients employed in the support of the ceilings, roofs, and cupolas. In some of the chambers there is an early example of a pendentive formation produced by corbelling out the upper courses of masonry originally derived from brick construction, and a contrast to the squinch system hitherto generally used.

A building at Delhi, which is obviously in the Khalji tradition, and may have been erected towards the end of the rule, is the Jamaat Khana Masjid at the dargah, or tomb, of Nizam-ud-din Auliya, a distinguished saint of the period. That in a very short time the style as expressed in the Alai Darwaza was losing its initial forcefulness, is shown by the treatment of this mosque, which, while retaining much of the substance and nature of the standard example, was obviously becoming affected by indigenous handling. It seems not improbable that the accomplished workmen who carried out the design and execution of the Darwaza were no longer available and the mosque was produced by others less familiar with the essentials of the style. This is shown by the shape of the arch, its horse-shoe character being less pronounced, as the curve at the spring is flattened, and moreover the ogee at the crown, the sign of the indigenous influence, it again appearing. The Jamaat Khana or "congregation house," is rectangular in plan, and the facade consists of three broad arched openings, each archway having a wide band of inscription above, and the "fringe" of spear-heads attached to its intrados, all in accordance with the style of the Alai Darwaza. The three exterior archways indicate the triple formation of the building, as it is in three conjoined compartments, each roofed with a shallow dome.

The interior design of this mosque is allied even more closely to the hall of the Alai Darwaza, as the cen-

tral and larger compartment is nearly the same size, being thirty-eight feet side. In the middle of each wall is a spreading archway repeating in shape and size those of the facade, each having also borders of Quranic inscriptions, spear-head intrados, and double nook-shafts at the sides. But the most striking features of the interior are the squinch arches which have been introduced into the angles to support the dome. Each occupies a large space of the interior wall, and is constructed on the same principle as the arches inside the Alai Darwaza, but in one respect they are an advance on that example, as an intervening story or triforium has been imposed between the walls of the hall and the base of the dome. (Plate X, Fig. 3.) In all other particulars, however, the interior of this mosque furnishes an instructive illustration of the manner in which an architectural expedient, like a language, may differ in its idiom when used by the people of another country; the actual composition of the Darwaza and the mosque is the same but the latter is differently articulated. What was really taking place was that the style was in a state of flux, although beginning to move towards the form of expression that emerged during the subsequent regime. These two buildings may be studied and compared with interest as an interval of less than a decade separates the one from the other.

The productions of the Khalji rulers were not entirely confined to the imperial capital, as examples of the style, mainly owing to the extensive expeditions of Ala-ud-din, are to be found at widely different places. After his capture of the Rajput stronghold of Chitor in 1303, he caused to be constructed a bridge over the Gamberi river, below the famous fortress. Unfortunately its chief architectural features, the gateways and towers raised over the abutments at each end have disappeared, but ten massive arches of grey limestone still exist to show that competent engineers as well as accomplished architects were engaged to carry out such projects. Another example of the architecture of the time may be seen in the Ukha Masjid at Bayana in Bharatpur State, Rajputana. This mosque was built by Qutb-ud-din Mubarak (1310-20), the last of the Khalji dynasty, and is accordingly not only a late production, but also a provincialized version of the Delhi style. Its character implies that it was probably built by local workmen, but under the supervision of an overseer from the Moslem capital, as the arches have none of the robust curves of the "keel" type, there is a weakness in its contours, although it has emphasized the spear-head "fringe." The conditions of its construction, the distance from the fountain-head of the style, and the fact that the dynasty was nearing its end, may account for the falling away in this example from the remarkably high standard originally set by Ala-ud-din at Delhi.

Chapter V

THE DELHI OR IMPERIAL STYLE
THE TUGHLAQ DYNASTY (A.D. 1320 TO 1413)

OF the eleven rulers forming the dynasty of the Tughlaqs, which was in power at Delhi for nearly a hundred years, three only, judging from the remains of this period, appear to have interested themselves in the art of building. These were (1) the founder of the dynasty, Ghiyas-ud-din Tughlaq I (1320-25), (2) his son, Mohammed Shah Tughlaq (1325-51), and (3) the most prolific of all in his building projects, Firoz Shah Tughlaq (1351-88). When it is understood that, besides other important architectural undertakings, each added his own capital city to the two already existing at Delhi, the amount of building construction represented by these three rulers is noteworthy.

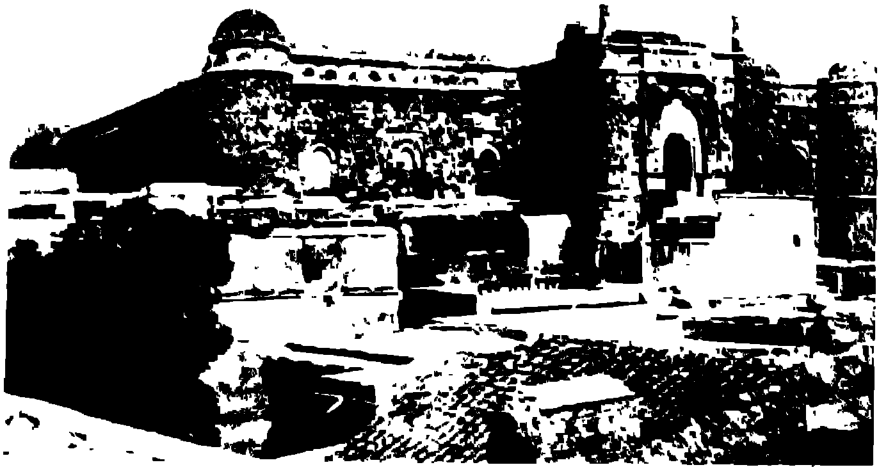
The first of the dynasty, Ghiyas-ud-din Tughlaq, and an old man when he came to the throne, reigned for barely five years. A soldier more than a statesman, as his works testify, his efforts in the field of architecture during this limited period were concentrated on the creation of the third city of Delhi known as Tughlaqabad. Standing now on the highest point of the rock formation on which it was built and looking down on the wilderness of ruins, lifeless and desolate, all that remains of this great enterprise is a haunting scene of savage splendour (Plate XI, Fig. 2). So bare and shapeless are its parts it is difficult to believe Ibn Batutah's contemporary account that "here were Tughlaq's treasures and palaces, and the great palace he built of golden bricks, which when the sun rose, shone so dazzlingly that none would gaze steadily upon it." Nothing resembling this picture can now be seen in the huge masses of broken masonry, the unadorned character of which suggests that the project took more the form of a stern and practical stronghold, than a work of architectural significance. As it is, however, the first of those great complexes combining a city, fort and palace, which grew out of the residential and military requirements of the times, elaborated reproductions of which became later a notable feature of the Indo-Islamic style, it calls for examination.

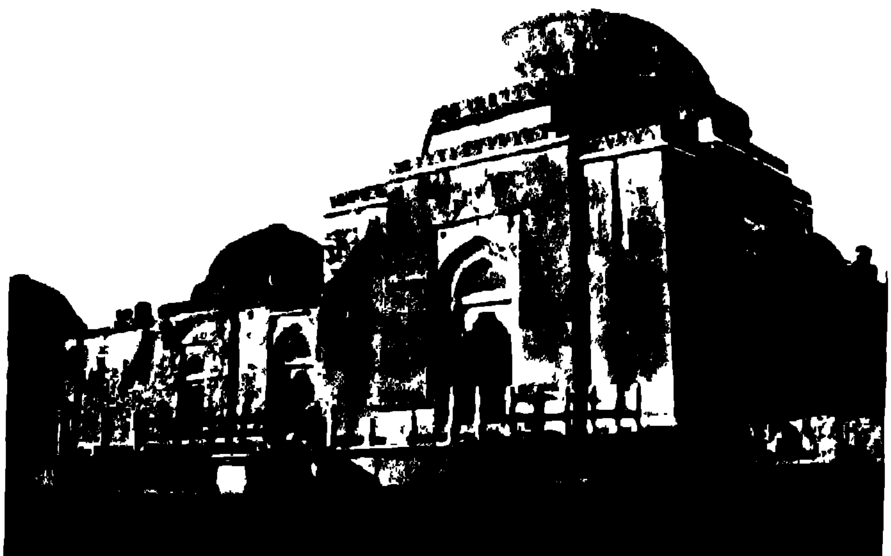
After the Roman fashion, the fortified city of Tughlaqabad is in two parts, consisting of a citadel corresponding to the castle of the occident, and the city, with their outer walls adjoining. Until fresh principles were evolved during the Crusades, this was the system of fortification that prevailed in Europe and western Asia before the tenth century, but the influence of the Roman engineers went far beyond the boundaries of the empire, as the *hirah* or camp-city of the Arabs testifies. Owing to the defences of the latter being formed of earth or sun-dried brick, they were battered, and this batter, or slope, was carried still farther eastward to be reproduced in the inclined stone walls and spreading towers of Tughlaq's fortress city at Delhi.

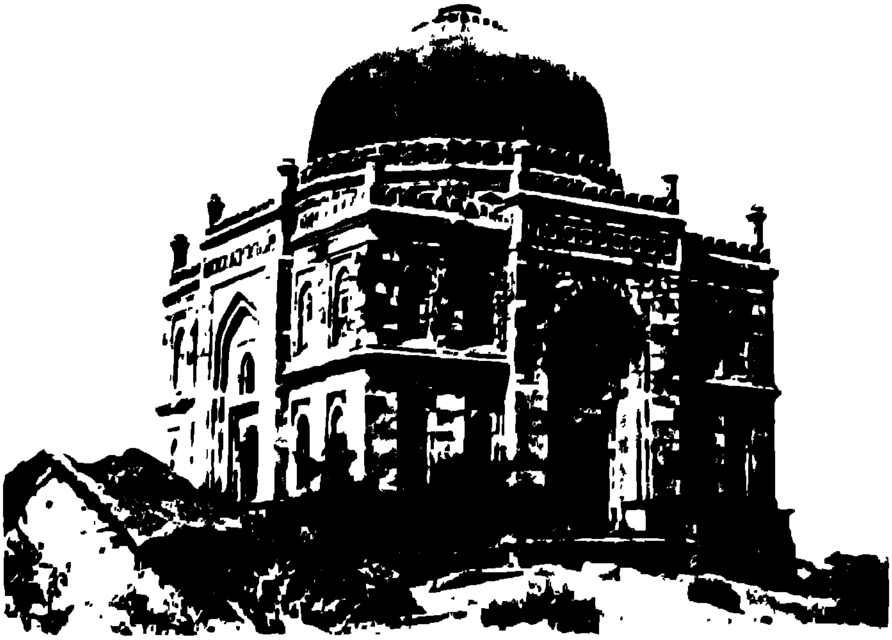
The trace, or ground plan, of Tughlaqabad is irregular in outline, for which the topography of the site is responsible, as it follows the shape of the rocky outcrop, a rough rectangle of approximately 2,200 yards each way. At close intervals throughout the entire circuit of its walls of over four miles, are immense circular bastions, sometimes in two stories, each parapet heavily embattlemented, their emphatically sloping sides perforated by innumerable oylets for archers. It is recorded that these walls were entered by as many as fifty-two gateways, most of which are now in complete ruin, although a few on the southern side are still in a condition to show they consisted of wide openings between flanking towers and approached by broad ramps for the passage of elephants. Every part is built of stone masonry of so massive a character as to be megalithic in appearance, the ponderous rough-hewn boulders having evidently been quarried on the site.

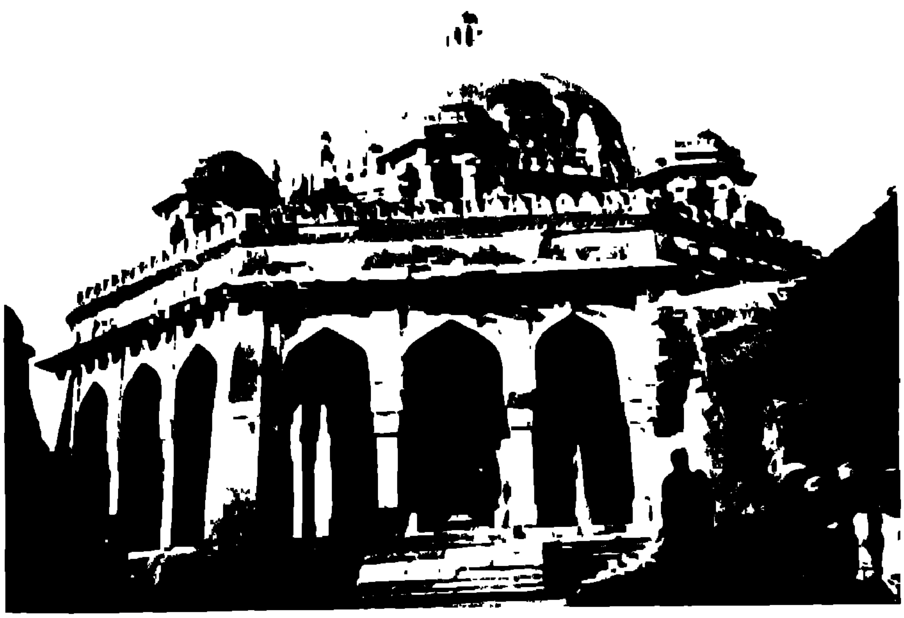
Of the arrangements within these walls little can be identified, especially in the layout of the buildings comprising the city, as what is left is unintelligible, but in the citadel itself, which dominates the whole and was surrounded by a moat, some of the main features may still be discerned. This portion was evidently a fortress and palace combined, being divided into two enclosures, the former with its remains of casemates, embrasured galleries, and guarded entrances, being a kind of keep, while the latter contained the royal residences, the zenana, and halls of audience, some of the rooms of which may have been roofed over with wooden beams. There is also a long underground corridor with chambers opening out of its sides, from which it appears to have been possible to pass in and out of the citadel by means of a postern. This method of entry and exit had some significance, as by it communication could be maintained with a relatively small but important appendage to the fortress, an outwork of considerable architectural character and outstanding interest. This is Ghiyas-ud-din Tughlaq's tomb. (Plate XI, Fig. 1.)

In contrast to the ruined conditions of this ruler's major work of Tughlaqabad, his tomb is in a surprisingly perfect condition, having no doubt been protected and preserved through the royal warrior's undying personal prestige. Originally standing within an artificial lake, a detached structure but connected with the citadel by an elevated causeway two hundred and fifty yards long, it takes the form of a self-contained fortress in miniature, not unlike a barbican or outpost to the city at its rear; on the other hand it may also have been intended as a donjon or place of last resort. That some idea of the kind occurred to the builders of these royal tombs has been already noted in connection with that of Sultan Ghari, and certain of the mosques, as will be shown, are so designed that they could be readily put









into a state of defence. It is possible these were produced in such a manner almost sub-consciously, in view of the unsettled state of the country, but none of them can compare in this respect with the fortress-like conception of Ghiyas-ud-din's last resting place at Tughlaqabad. Not only is the enceinte so designed as to suggest a heavy suit of protecting armour but its entrance, although faced with a graceful doorway, is so cunningly contrived as to constitute a death-trap to those attempting to force it. Then within its courtyard are several solidly built underground vaults, having apparently no connection with the mortuary chamber itself, but clearly introduced as strong rooms for the safe keeping of hoarded wealth. Thus is explained a remark by Batutah in describing Tughlaq's capital "there he laid up great treasure and it was related that he constructed there a cistern and had molten gold poured into it so that it became one solid mass"

The exterior plan of this fortress-tomb is in the form of an irregular pentagon with a spreading bastion at each angle, its greatest length being less than three hundred feet, an unusual shape evidently conditioned by the contours of the small rocky "island" on which it was built (Plate XII, Fig. 2.) The courtyard within is of the same unsymmetrical outline, with the tomb-building placed diagonally at its widest part, a position rendered necessary in order to bring it into correct orientation with Mecca. The fabric of this tomb-building is of red sandstone with certain portions, including the dome, of white marble, but the most striking part of its composition is the determined slope of the outer walls, as these are inclined at an angle of seventy-five degrees, suggesting in a manner the converging sides of a pyramid. Its square base is sixty-one feet side and the entire height of the structure, including its sandstone finial is over eighty feet. In the centre of each side is recessed a tall pointed archway, three of which contain doorways, while the fourth, or western side, is closed to accommodate the mihrab in its interior. Parts of the exterior design are reminiscent of that outstanding structure the Alai Darwaza produced in the previous decade, but with certain marked differences There is the same character in the treatment of the pointed arches, each having its spear-head "fringe" although in the case of the tomb, the horse-shoe shape has been modified into one of a more "Tudor" outline, and there is a slight ogee curve at the crown. But the chief difference lies in the actual conception of these archways, in which a notable expedient appears for the first time, namely, the imposition of a lintel across the base of the arch, thus combining in the construction of this opening the two principles of support, the arch and the beam. From the fact of the reappearance of the beam in the building art at this time much might be inferred, such as the unconscious insistence on the part of the indigenous workmen in maintaining their traditional methods. A compromise was then effected in the form of a fusion of the two systems, the trabeate and the arcuate, a compounding of the structural conventions of both communities, as illustrated in the archways of this tomb. Whatever the motive, such an amalgamation of separate systems although occasionally found in the architecture of other countries, is technically irrational, as when employed in this manner the beam loses its structural significance, and so becomes merely ornamental. Yet in the capable hands of the Indian builders it developed into a remarkably artistic achievement, and with the addition of a bracket under the ends of the beam, continued to be used in the subsequent styles with increased effect.

The interior of this tomb is a single chamber thirty feet square, light being admitted through the three arched openings. Above, the domed ceiling is supported on four squinch arches in much the same manner as that of the Alai Darwaza, but with the angles between the octagon and the sixteen sided figure over it filled by three projecting blocks of stone acting as brackets. The dome itself denotes an interesting stage in the evolution of this important feature in the building art of the country, both with regard to its shape as well as its construction. It is a single dome, that is to say it has no empty space between its inner and outer surfaces, and in design it is of the pointed or "Tartar" shape the type afterwards to become characteristic of the Indo Islamic style as a whole. The process of construction was by means of headers and stretchers of marble attached to a brick and cement core, dowelled in with metal cramps, the headers being inserted into the core for nearly a foot, the whole having been erected over some kind of temporary centering. This dome has a span of some fifty-five feet, and is crowned by a finial resembling the *kalasa* and *amla* (vase and "melon" motif) of a Hindu temple. Although on account of its "four-square" almost aggressive appearance of strength and solidity, the building as a whole is a work of powerful expressiveness, yet its design contains several ineffective passages, such as the weak projection of the central bays framing the archways, and the timid extension of these above the parapet with disproportionately small merlons. Then the rectangular marble panels tend to be mean and featureless, and not in keeping with the bold, robust character of the main composition. But even with these shortcomings, it is a convincing production seeming to hold something of the indomitable spirit and sturdy independence of the warrior king it commemorates.

One important fact in the design of this mausoleum, however, remains unexplained, the one that gives it its chief architectural character, namely the pronounced slope of its walls Yet the source of such an unusual and unexpected development is not difficult to trace. At the same time that Ghiyas-ud-din was building his own tomb at Tughlaqabad, he was also causing to be erected, as an act of personal devotion, a magnificent mausoleum at Multan over the remains of a renowned saint Shah Rukn-i-Alam. (Plate XXII, Fig. 1). This city already contained several tombs in an architectural mode not unassociated with a Perso-Arabian tradition, all of them on account of the scarcity of stone in the plans of the Punjab being constructed of brick. Owing largely to the requirements of this type of building material, sloping walls and other inclined features dominate their design, and it seems

not unlikely that the decisive batter in Tughlaq's tomb may have been suggested by the brick architecture of Multan and other towns in the Punjab. As this tomb signifies the beginning of a phase in the imperial style in which a sloping effect appears and persists for a considerable period, its importance as a landmark will be realized.

To Ghiyas-ud-din's son and successor, Mohammed Tughlaq (1325-51) belongs the credit of having built the fourth city of Delhi, but it cannot be said that his patronage had much influence on the imperial style as a whole. His contribution to the capitals of this area consisted in enclosing the space between the first and second cities, by means of fortified walls of prodigious thickness, the part thus joined up being named Jahanpannah, or the "World's Refuge." Very little of this great walls remains, but certain buildings within have been preserved, as for instance an ornamental sluice, comprising a double-storied bridge of seven spans, hence its name "Sath Pul," with supplementary archways and a tower at each end, the whole intended to regulate the supply of water to an artificial lake, which was one of the features of the new city. Another structure bearing traces of architectural treatment is the Bijai Mandal, presumably part of a "Palace of a Thousand Columns," among the remains of which are certain horse-shoe pointed arches, imperfect reproductions of the "keel" type of the Khaljis. A tomb in its vicinity, square in plan and with a shallow dome, its drum perforated with openings, shows in its proportions and form generally, that the art of good building was being consistently maintained.

Here also, although most probably built rather later, is a type of structure, not at all common in the building art of the country. The secular architecture of India is mainly represented by fortresses and palaces of the rulers, but in this instance there has been preserved an example of the habitation of a less exalted personage, the private residence of a nobleman of the fifteenth century. Locally known as the *Bara Khumba*, or "Twelve Pillars," it is considerably damaged, but a restoration of it is shown in Plate XIII. There will be seen the enclosed courtyard with the well and bathing facilities in the centre, and round are quarters for servants and the stables. An inner staircase leads from this ground-floor to the large flat roof, guarded by a parapet wall, so that this could be used as a terrace for promenades or similar purposes in the hot weather. Connected with this courtyard is a pillared compartment, after which the building is now named, and which was probably the domestic portion of the house, containing a fine coffered ceiling. Outside is the garden with a well and a *chauboutra*, or sitting-out place, while the whole is contained within a high and substantial protective wall. The most prominent feature of the composition is a square tower in three stories, conveniently placed so that it is accessible from all the ground-floor quarters. Here no doubt the head members of the family passed their time in rooms open to the air, and from which views of the country all round could be obtained. The sloping wall of this tower, and the pyramidal roofs are all expressive of the existing architectural mode, while the entire conception enclosed as it is, both for defensive reasons and for privacy, is characteristic of the life of the time.

During the reign of Mohammed Tughlaq, it was his capricious policy to remove the capital from Delhi to the distant city of Daulatabad, in the Deccan, six hundred miles away. Apart from the misery that this forced migration caused, for the transportation of the entire population entailed universal suffering, such a course of action went far towards ruining the historical area that his predecessors had endeavoured for one hundred and fifty years to make beautiful, and moreover affected seriously the continuity of the style of architecture that it represented. Deserted and desolate as the city of Delhi is recorded to have been about the year 1340, its inhabitants dispersed, the rich lands around abandoned by their cultivators, the skilled workmen compelled to seek service elsewhere, as far as the imperial capital was concerned the building art for the time being had come to an end. Only through the enthusiastic patronage of Mohammed Tughlaq's successor, Firoz Shah, was a movement again made, and the style revived.

Firoz Shah Tughlaq (1351-88), the third of his line, was so passionately devoted to the building art that he made it almost part of his faith. For he himself wrote "among the gifts which God bestowed on me, His humble servant, was a desire to erect public buildings[1]." During his long reign therefore of thirty-seven years, he was responsible for a very large number of important building projects, all produced in a style peculiarly his own. This style is sufficiently dissimilar from anything appearing previously, that before these buildings are described some explanation of their deviation from the normal course of development seems called for. The differences in the architectural character of the creations of the Firozian period are fundamental, and imply the birth of a new order of ideas, as they are a reflection of the conditions that prevailed at the seat of the government at this particular juncture. A scarcity of skilled stone-masons and similarly experienced workmen, due to their dispersal on the transfer of the capital by Mohammed Tughlaq, precluded any building scheme being put into effect that required special technical knowledge, and even had this been forthcoming the reduced finances of the country brought about by the ruler's political extravagances would have soon limited any architectural activities. The economic position therefore was such that Firoz, when he found himself in power, even with the best of intentions could only satisfy his structural ambitions by means of buildings composed of inexpensive materials, put together in the readiest manner, and in a plain but serviceable style. It is a form of architecture that cannot be mistaken. In place of the finely coursed and well-finished sandstone ashlar, fitted squarely and evenly to be a delight to the eye, which hitherto had been a characteristic of most Indian construction, whether Hindu or Mohammadan, the

[1] *Futuhat-i-Firoz Shah* (Elliot, Vol III, p 382).

royal patron had to be content with a method of walling of a very different order, consisting of random rubble-work, its untrimmed surfaces being coated with a substantial layer of cement. In certain parts of the building such essentially structural features as lintels, doorposts, pillars, and the like, were formed of roughly dressed monoliths, and in the rare instances where decoration was applied, it was not carved in stone but moulded in plaster. Architecture produced on these terms resolves itself into a somewhat dull and featureless form of expression, a scheme of sombre monochromes and half-tones, although it is true some of the lack of effect now observable is due to long centuries of weathering. For in its prime a certain surface finish was obtained by means of colour-wash, since entirely abraded, but even when new its appearance could not have been inspiring, as its outward aspect was almost entirely one of plain white.

The materials and method of construction employed by the Firuzian builders naturally reacted on the character of the architectural style. With masonry of this loosely knit order, additional strength and stability was assured by building certain portions thicker at the base than at the top, an expedient which gives the illusion of greater power, although no such angle of batter is really structurally necessary. This effect of slope is emphasized in many of the examples by the attachment of tapering turreted buttresses at the quoins, and by projecting conical bastion-like towers crowned with low domes from the four corners of the building. The resemblance in its general appearance, of this architectural style to the brick-built tombs of Multan of a slightly earlier date is something more than a coincidence, and it is clear that the influence of this forceful and independent development in the southern Punjab, already noted in the tomb of Ghiyas-ud-din, was being maintained by his successor Firuz. Yet in the Multan examples the architecture was enriched by a considerable amount of surface decoration in the form of carved terra cotta and patterns of brilliantly coloured tiling, the latter of Persian extraction, which only occasionally found a place in the buildings at Delhi. Architecture, almost devoid of embellishment, as are most of the public works of Firuz, is contrary to the instincts of the Indian mason, with whom it was a passion to cover his creation with plastic ornamentation of a rich and varied order. The appearance therefore of this puritanical phase of the building art, bare and astringent, implies the suppression of the indigenous impulse and in its stead the application of an architectural asceticism foreign to the country, although evidently in keeping with the diminished resources of the time.

Among the building exploits of Firuz Tughlaq were at least four fortress cities, including the fifth city of Delhi, known as Firuzabad. Several important tombs were also produced and mosques without number, besides which Firuz himself records a rare action in the restoration of many historical buildings erected by his forbears which had fallen into decay. Among the fortified cities which he founded were those of Jaunpur, Fathabad, and Hissar, but the foremost achievement of its kind was his capital at Delhi on the banks of the Jumna, one of his earliest undertakings, as it was begun in 1354 (Plate XIV). It has been already shown that his predecessor's similar scheme of a fortified capital at Tughlaqabad, was the ancient one of a citadel and an attached walled city, and Firuz's conception was of much the same type, but elaborated and developed. What remains now of the city of Firuzabad, is the great citadel or palace-fortress, a vast walled enclosure containing all the amenities and necessities of a self-contained and fully equipped royal residence, and everything that this implies. The site of the Kotla Firuz Shah, as it is called, is on an extensive plain bordering the river, an ideal position as it enabled its designers to work out a fairly symmetrical plan. As it was abandoned some one hundred and fifty years later, it is now ruined and derelict, but its principal arrangements are still tolerably clear. Occupying a rectangle less than half a mile long by a quarter broad, its longer axis running north and south, it was surrounded by high battlemented walls with tall spreading bastions at frequent intervals. The main entrance to this enclosure was on the western side and consisted of a strongly fortified gateway thrown out after the manner of a large barbican from the line of the walls, protected by a curtain and with a guard room and barrack in a courtyard inside. On the opposite side to the main gate, across the width of the Kotla, was a large rectangular enclosure overlooking the river, within which were the palaces and royal and private residences, most of them aligned along and above the outer wall to receive the benefit of the cool air carried across the water.

The rest of the space within the Kotla walls was divided off into square and rectangular courtyards, one of the largest of which was the Hall of Public Audience, a spacious open quadrangle surrounded by a pillared verandah for the transaction of official and political affairs. In the remainder was a great variety of structures such as pavilions for different purposes, grape and water gardens, baths, tanks, barracks, armoury, and servants quarters, all conveniently disposed and communicating with one another. Towards the centre, and also against the river wall was the principal congregational mosque or Jami Masjid, a large and imposing structure, recorded to have accommodation for an assembly numbering ten thousand, while in other parts were similar but smaller places of prayer, including one of the private use of the palace, the Chapel Royal. Thus it will be seen that the main principals of the palace fort as it developed in Islamic India were originally laid down by Firuz in his Kotla at Delhi, to be consummated with such magnificent effect more than two centuries later by the Moghal Emperors at Agra, Shahjehanabad (Delhi), Allahabad and elsewhere. Yet it is possible Firuz himself was merely reproducing a traditional and generic type of imperial domain, a type which had prevailed for many centuries all over the then-known world, as in these palace-complexes of India there are many points of resemblance to the castellated palaces of the Roman and Byzantine empires, such as the palace of Diocletian at Spalato, and other ancient and historical royal residences. One monument in the Kotla is however unique, and strikes a romantic note. This is a

large structure occupying a prominent position towards the centre and consisting of a series of square arcaded terraces, diminishing as they ascend to produce a kind of stepped pyramid, on the summit of which the Tughlaqian ruler raised one of Asoka's famous pillars, removed from its original site near Amballa where it had remained unmolested and had defined the elements for sixteen hundred years. A contemporary historian has recorded, graphically and in full detail, the manner in which the great monolith was carefully lowered, transported, and re-erected, presenting a vivid picture of the simple but effective mechanical methods in practice at the time.[1] In installing this Buddhist column as a dominating feature of his scheme, Firuz was endeavouring to emulate his predecessor Qutb-ud-din Aibak when some one hundred and fifty years before he placed the Iron Pillar of Kumaragupta as a central feature in the courtyard of the Qutb Mosque.

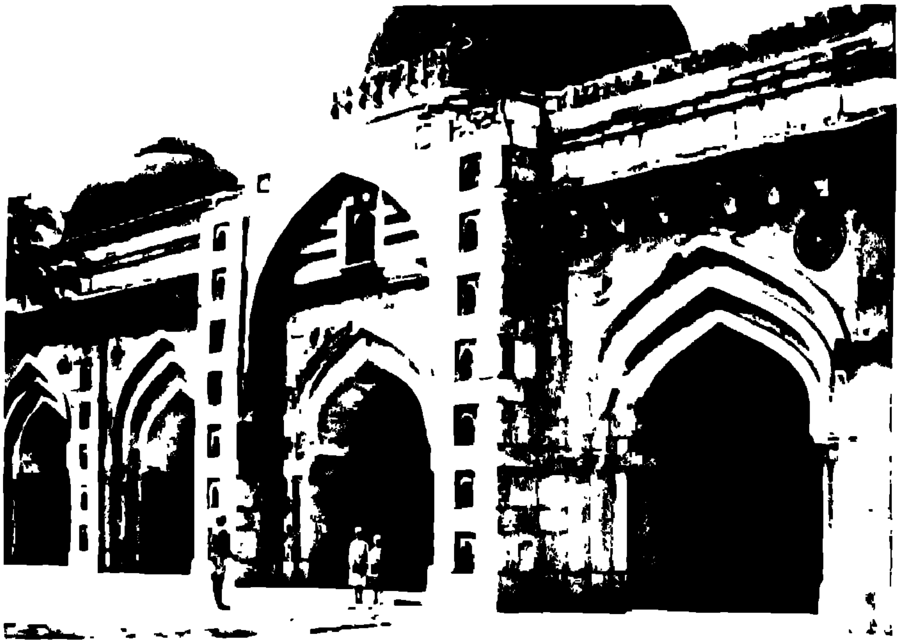
In fairly good repair, and therefore better illustrating the architectural mode than the Kotla, are some of the mosques of this period, most of them built in and around old Delhi during the decade beginning in 1370. Chief among these are the Kali Masjid (c. 1370), the Begumpuri mosque at Jahanpanah (c. 1370), a mosque in the Dargah of Shah Alam at Timurpuri (c. 1375), the Khirki Masjid at Jahanpanah (c. 1375), and the Kalan Masjid at Shahjahanabad (c. 1375) (Plate XV, Fig. 1). Two of them not unlike in their general appearance and also quite typical of the style, are the Khirki mosque and the Kalan masjid, both buildings being made more impressive by the plan of raising the whole structure on a *tahkhana*, or substructure of arches. In their outward effect these two mosques bear some resemblance to the enclosure of the tomb of Sultan Ghari with their boldly projected entrances approached by fine flights of steps, and particularly with their rounded bastions thrown out from each corner, the entire composition having a fortress-like aspect not usually associated with a place of prayer. But where the exteriors differ from their tomb prototype of nearly a century and a half earlier, is in the development of that system of battering lines and spaces, as expressed in the slope of the bastions and the taper of the turrets, added to which is the rough, though efficient nature of the masonry throughout.

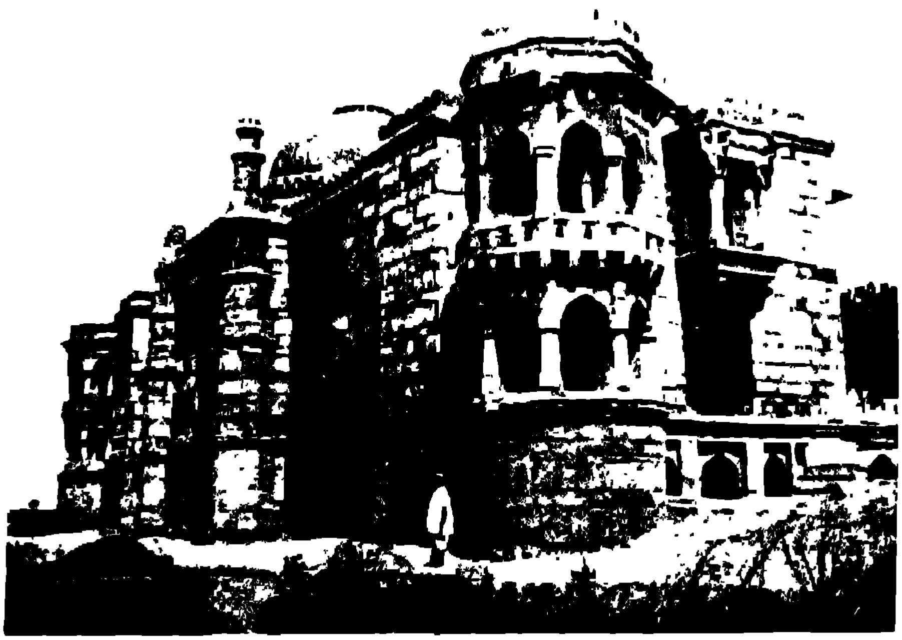
Entering one of this Firuzian type of mosque through an arch-and-beam doorway the interior consists of cloisters formed by a series of square bays, the corner of each supported on a heavy pier with "Tudor" arches between, and each bay roofed by a cup-shaped dome. The piers are short and thickest, composed of groups of two and sometimes four plain square monolithic pillars, an arrangement implying strength but without elegance. The Khirki masjid, as also the Kali masjid is designed on a cruciform plan produced by the two main aisles crossing at right angles, the former example having such wide cloisters that the entire area of the mosque is covered, except for four open quadrangles, one in the centre of each of the four quarters. There is something appropriately solemn in the shaded corridors of the Khirki masjid, although covered, or even partly covered mosques are not altogether in accordance with historical usage, and are therefore somewhat rare. (Plate XII, Fig. 1.) Of the other, and more orthodox mosque scheme having a large open courtyard as its main feature, that at Begumpuri is an example, yet its architectural style is of much the same character as the preceding. Around its courtyard is a "Tudor" arched arcade forming the cloisters, but on its western side the regularity of the arcading is interrupted by the introduction of a tall arched pylon in the centre of its facade, having a triple entrance leading to the sanctuary, over which rises a shapely dome. A distinctive feature of this pylon-facade, which itself is a descendant of the *maqsura*, or screen of arches, is the tapering turret at each of its quoins creating that sloping appearance, inherent in the productions of this reign. The tall facade, however completely masks the rising dome at its rear, thus illustrating not only the unsuitability of such a form of composition, but also implying that the tradition of the arched screen was beginning to degenerate into a mere convention.

Of the tombs of this period at Delhi, three are of architectural significance, one being over the remains of Firuz Tughlaq himself, another marking the resting place of his Prime Minister, while the third was built by his successor as a monument to a famous saint Kabir-ud-din Auliya. The extensive range of buildings of which the mausoleum of Firuz is the dominant feature, and now known as the *Hauz-i-Khas*, consists of the tomb, and the ruins of a large and elaborate annexe, which has been identified as a college, all picturesquely situated beside an ornamental lake. Amidst the crumbling walls of this composition, with its colonnades formed of arch and lintel arcades, the tomb stands tolerably complete, and although designed and executed in the severe mode of the time, its proportions and general treatment give it an air of some distinction. (Plate XV, Fig. 2.) Square in plan, of forty-five feet side externally its plain cemented walls slope gently, each side being relieved by a projecting surface, two of which have shapely arched openings. Above the parapet incised with ornamental merlons rises an octagonal drum supporting a shallow and slightly pointed dome. Extending in front of the southern side is a low platform or small terrace surrounded by a stone railing of graceful design composed of uprights and two horizontal bars, the whole forming a private enclosure. The interior of the tomb is a square chamber with squinch arches in each angle to support the dome, and an arched mihrab is sunk in its western wall. Both in the interior and on the outside of this tomb there is a certain amount of inscribed arabesque ornamentation which, however, does not belong to the original structure, as it was added during some repairs executed by Sultan Sikander Lodi at the beginning of the sixteenth century. In accordance therefore with the style, and also with the ideals of the ruler it commemorates, it is a monument combining unaffected simplicity with an appearance of refined dignity.

An unpretentious building in itself but of considerable

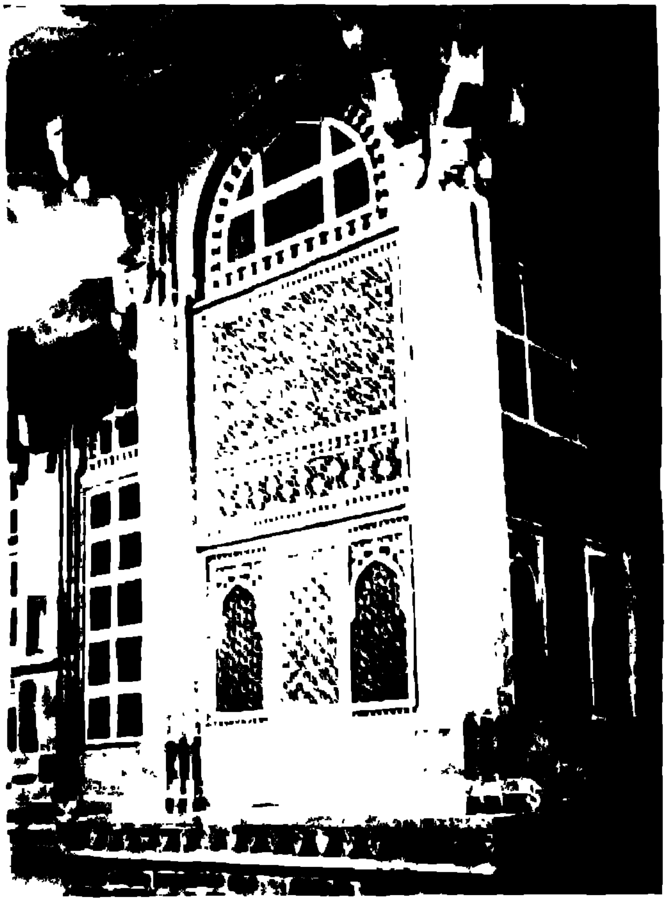
[1] *Shams-i-Siraj* (Elliot's Hist. of India, Vol. III, p. 350).

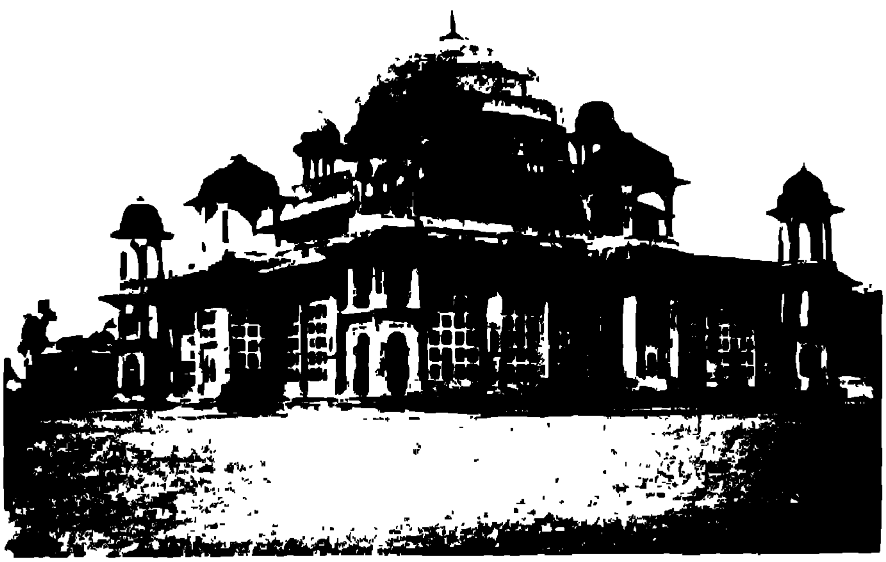




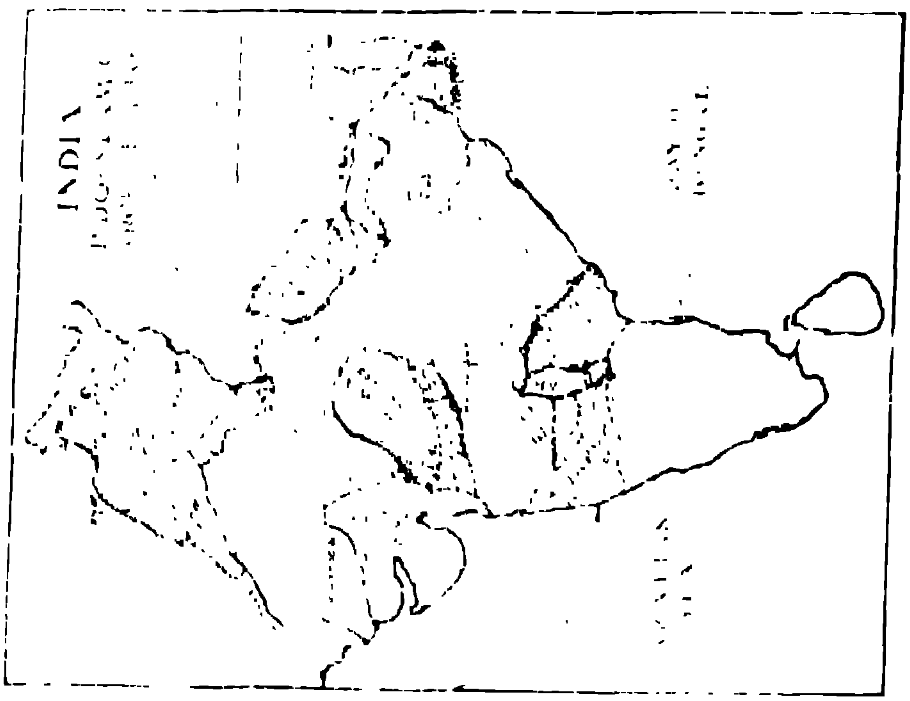




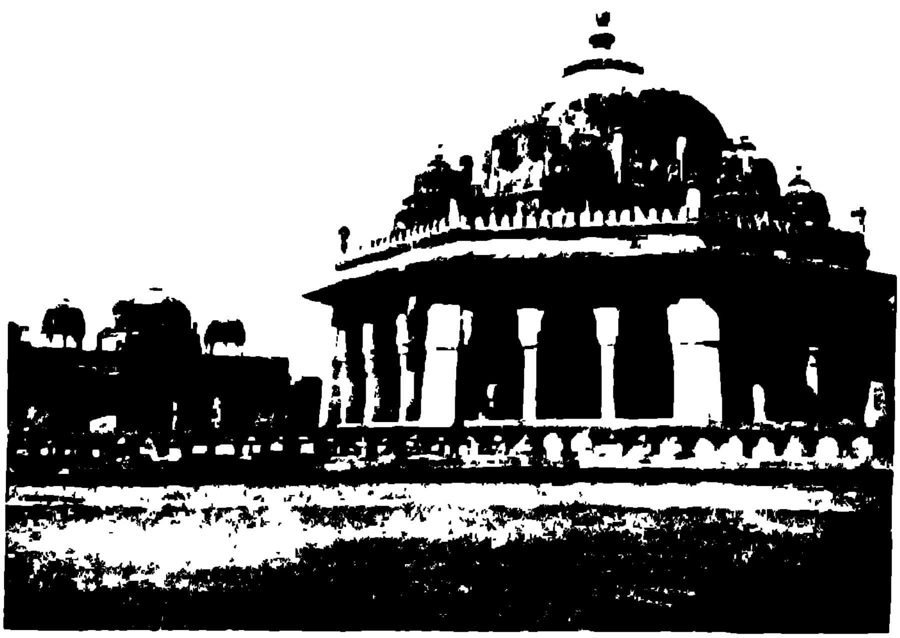


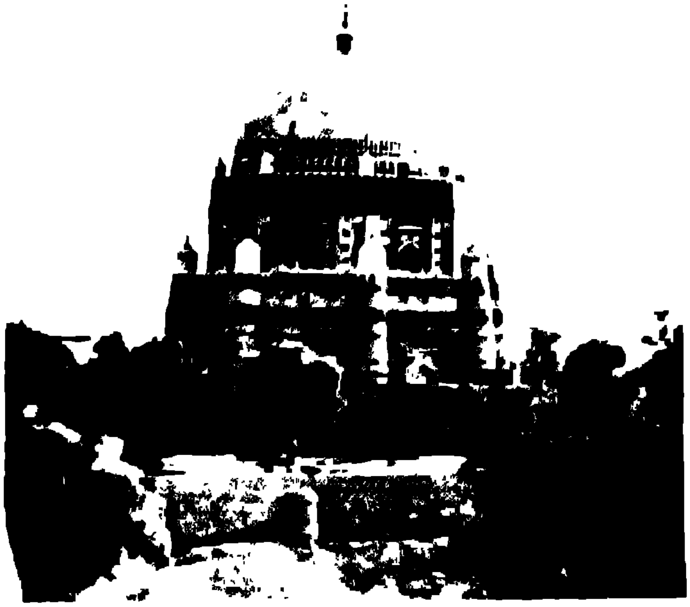




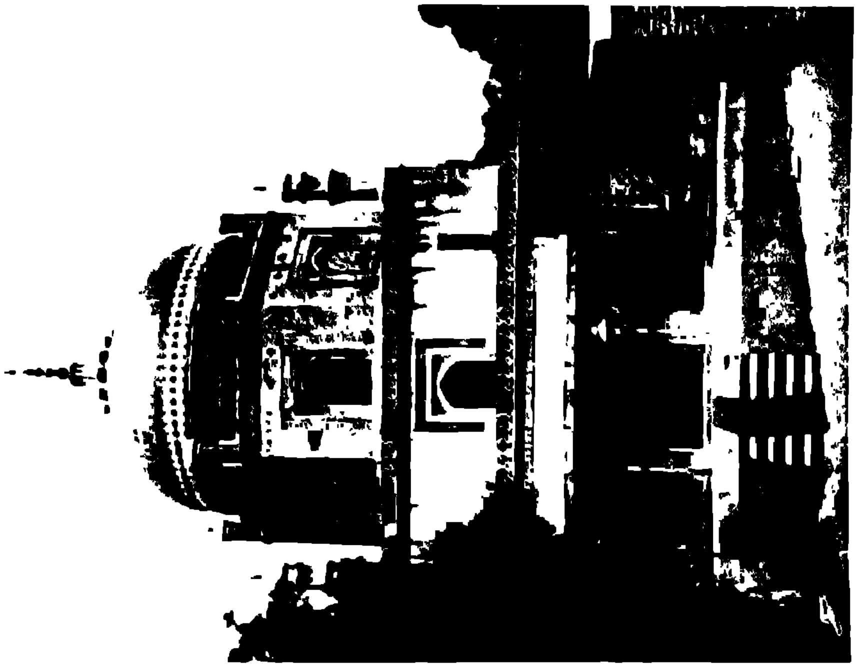

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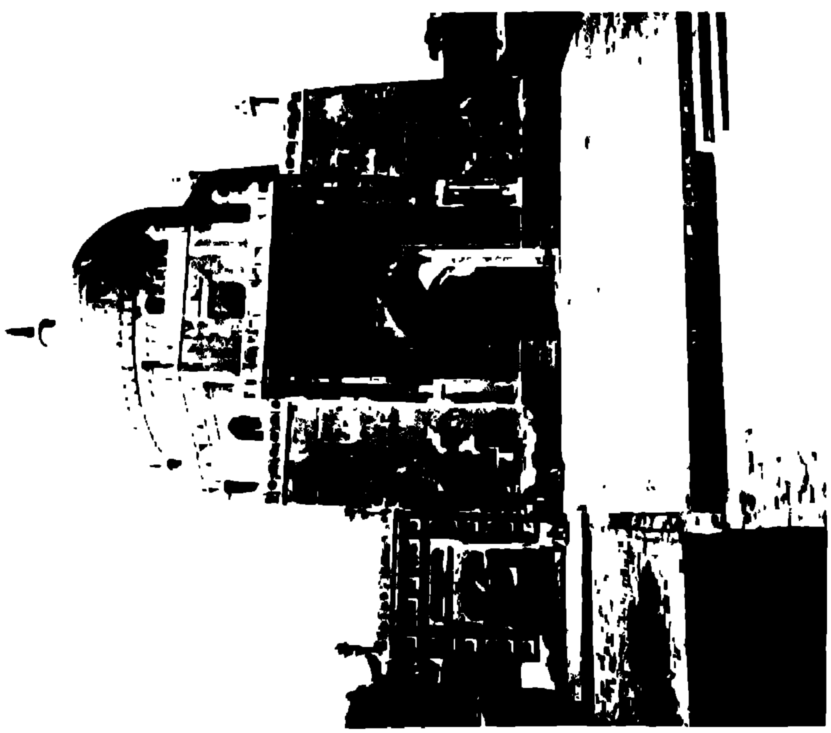




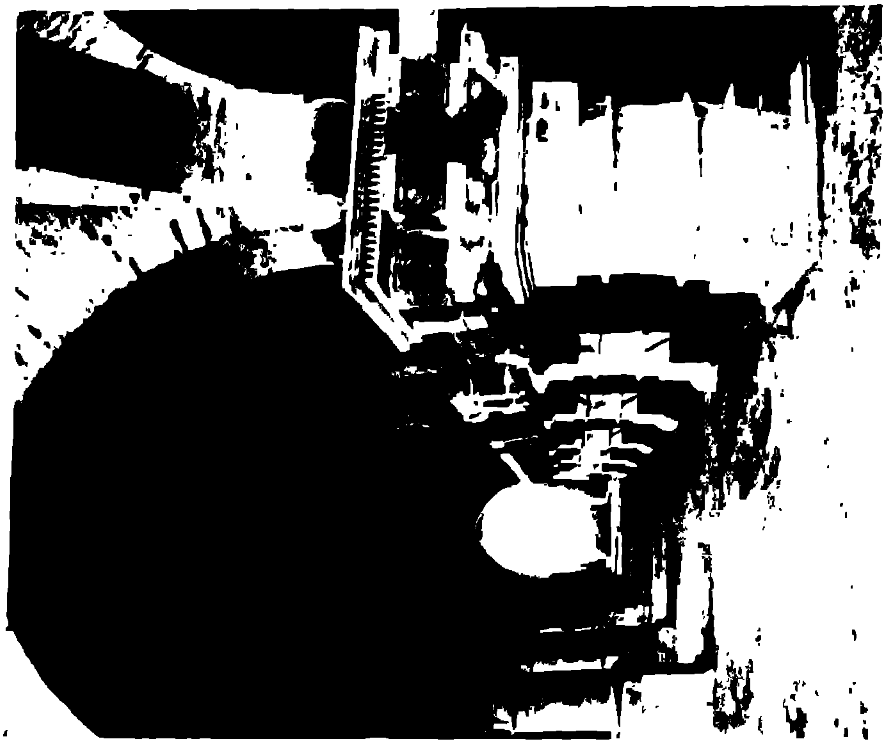


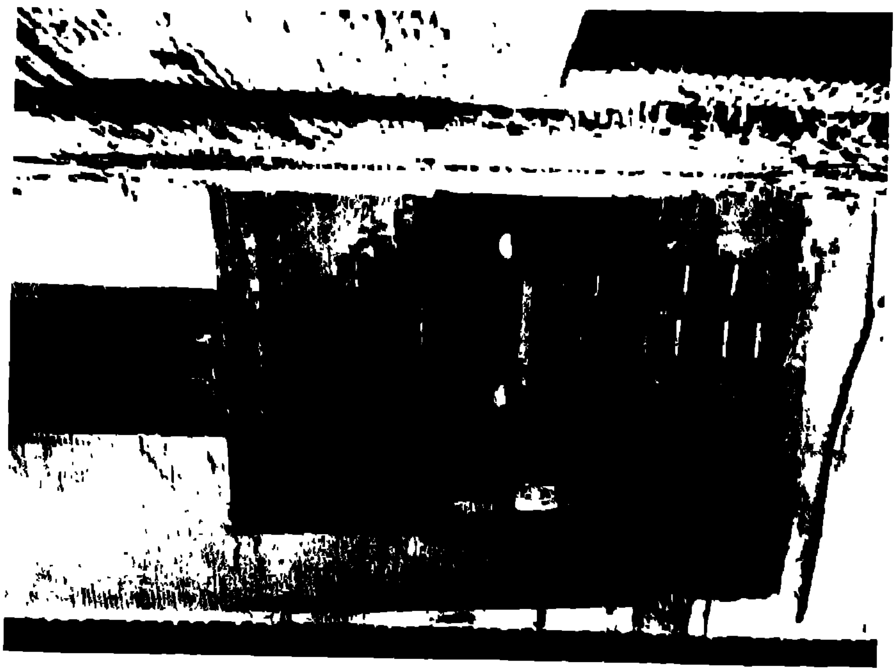






XXIV





importance in view of the significance of its design is the tomb of Khan-i-Jahan Tilangani, a premier official at the court of Firuz, and who died in 1368-9. It is remarkable because it illustrates a new type of tomb-structure, an architectural formation of such a pronounced appearance that it was destined to influence fundamentally the style of tomb-building as this developed during the two succeeding centuries. In its outer enclosure the tomb merely repeats to a modified degree the fortified effect of the previous type, with its strong walls and corner towers, but it is the last example of its kind for with it the defensive idea seems to have ceased. An innovation in design occurs in the treatment of the tomb building within this enclosure, which assume an entirely different shape from its predecessors, both in plan and elevation. Hitherto the tomb structure had been invariably square in plan, but that of Tilangani takes the form of an octagon, on which a new conception was evolved. That in this particular instance the eight-sided plan was an experimental effort is fairly obvious, as its proportions are crude and imperfect. It is possible that such formation was self-originated, initiated by an Indian builder with an instinct for invention; on the other hand the shape and architectural treatment bear a resemblance to one of the most sacred monuments of Islam, the so-called Mosque of Omar in Jerusalem, originally built in the seventh century and well known to the followers of the Faith. For this historical shrine is octagonal in plan, is enclosed within a verandah and roofed by a dome, all of which are reproduced in the example at Delhi. There are other features in the tomb of Tilangani, however, which give this small structure some of its individual quality. Each side of its octagonal verandah contains three "Tudor" arches, and over these arches projects a wide *chajja*, or eaves-board, an early application of this effective element which, from now onward, was consistently maintained. Another innovation was the imposition of a range of eight cupolas on the roof rising above the embrasures of the parapet, one over each octagonal side. From this comparatively small beginning were developed those large and stately mausoleums of octagonal conformation which imparted such a distinctive character to the subsequent architecture of northern India and also elsewhere.

A building erected towards the end of the regime of the Tughlaqs is a Jami Masjid at Irich, a town some forty miles north of Jhansi. Its main interest lies in the fact that it represents the stage of transition between the style of the Tughlaqs and that of the succeeding dynasty. The outline of its arches, and the system of repeating these in receding planes, or layers, prefigure the mode that subsequently prevailed under the Sayyids and the Lodis, the last of the Sultans of Delhi. Except for the arches, however, the mosque has no special architectural merit, although the design and execution of the mihrab, the most finished portion of the structure, show that skilled Hindu artisans were evidently employed in the production of this essentially Moslem feature.

The style in vogue during the Tughlaq dynasty closes on a rather spiritless note. It is illustrated by the tomb of Kabir-ud-din Auliya, one of the latest productions, as its date is after the death of Firuz, and during the short reign of his successor, Ghiyas-ud-din II (1388-89). Whether, after the removal of the guiding hand of this enthusiastic building monarch, those in power felt a desire to recapture the more inspiring handiwork of his predecessors, is not clear, but the fact that this tomb is an attempt to copy the sandstone and marble mausoleum of Ghiyas-ud-din I, erected sixty-five years previously, seems to point to some such inclination. An endeavour to return to an earlier type, however, only resulted in reproducing a mere travesty of the royal original, as the tomb of the saint, besides being not much more than half its size, in an effort at simplification to conform to the smaller scale, has become mean and ineffective, and the dome instead of being a full rounded form in marble appears as a weak conical erection in cement, although it is possible that its outer casing may have been since destroyed. The intention indicated by this building was good, but to put it into effect either the spirit or the means, or both, were lacking. In it we see the seeds of decay, a decay hastened by the events which almost immediately followed. The devastating invasion of Timur took place in the last years of the fourteenth century, Delhi was sacked, its inhabitants were put to the sword, and the ruler became a fugitive. As was not uncommonly the custom, the conqueror, according to his own records states that he spared "all the artisans and clever mechanics, who were masters of their respective crafts, including all builders and stonemasons, and ordered that these should be set apart for my own especial purpose to await my commands. For I had determined to build a Masjid-i-Jami in Samarkand, the seat of my empire, which should be without rival in any country[1]." Like Babylon, therefore, Delhi was left desolate "and no craftsman, of whatever craft he be, shall be found any more in thee." And not only the craftsmen but, in order that there should be no deficiency, their materials also were included among the victor's spoils, for according to an eye-witness[2], ninety captured elephants were employed to carry consignments of stone acquired while on this expedition, to be used in the construction of the great building he contemplated. For exactly two hundred years Delhi had been the imperial centre and focus of the Faith in India, during which period five of its royal cities had been founded, while many other great monuments had been raised within its environs. But for the moment its high time had passed, it passed into the dust of Timur's retreating hordes.

[1] *Malfuzat-i-Timuri* (Elliot's History of India, Vol III, p. 447)

[2] *Narrative of the Embassy of Clavijo to the Court of Timur*, by Markham (Hakluyt Society, 1859)

THE DELHI OR IMPERIAL STYLE
THE SAYYID (1414-51) AND LODI (1451-1526) DYNASTIES

AFTER the invasion of Timur and the sack of Delhi, in spite of the devastation thus caused, in the course of time the imperial power in northern India to a certain extent revived, but it was little more than a shadow of its former state. During the fifteenth century and also into the first quarter of the sixteenth a number of buildings were erected in various parts of the Delhi area, first under the rule of the Sayyids and afterwards under that of their successors, the Lodis, but owing to the much diminished influence of these two dynasties all forms of enterprise languished, and what architecture was produced reflects the broken spirit of the time. No great building undertakings are recorded as during the previous regime, no capital cities were founded, no imperial palaces, no fortresses or strongholds were created, no mosques of any importance, no colleges, and no public buildings of any kind appear to have been produced. It is significant that almost the only form of monument that appealed to the rulers and their subjects at this juncture, were those expressive of dissolution; they excelled in memorials to the dead. In the sphere of architecture it was a period of the macabre, appropriately so named as that word is probably derived from *maqbarah*, the Arabic for cemetery. And at perhaps no other time has the tomb been more manifest in the consciousness of the people than during the rule of the Sayyids and Lodis, and Delhi on account of its imperial associations, was considered the most appropriate site on which such buildings should be erected. Scores of large tombs therefore arose within its neighbourhood, so much so that in the course of time the country around the capital was converted into a vast necropolis. No special system of allocation or similar arrangement seems to have been followed, the spaces between the various cities were occupied by groups of memorial monuments great and small, and they also spread themselves into the tracts beyond. Upwards of fifty of these tombs are of size and importance, at least three of which are large mausoleums of the rulers themselves, while many others mark the last resting places of nobles and other prominent personages of their court. They range from simple open pillared pavilions in which the cenotaph is exposed to view, to imposing structures standing within spacious walled enclosures entered by tall gateways, and with the addition of a mosque recalling a mortuary chapel on their western sides. No longer were their precincts designed to appear like miniature fortresses, but they now began to assume the character of cloistered garths surrounding a central monumental pile, and were thus more in keeping with their peaceful and solemn purpose.

The more important of these tomb-buildings took two separate forms, the outcome of two different conventions. On the one hand there was a type designed on an octagonal plan, surrounded by an arched colonnade or verandah with a projecting eave and one storey in height. On the other there was another type, square in plan having no verandah, and the exterior being two, and sometimes three stories in height (Plate XVI, Fig. 1). In both instances the building was surmounted by a dome, with not infrequently a range of pillared kiosks rising above the parapet, one over each side of the octagonal kind, and one at each corner of the square variety. The three large tombs identified as memorials of the Sayyid and Lodi rulers are of the octagonal order, so that it is not improbable that in the first instance this was the recognised design of a royal tomb, the square type being reserved for nobles and others of high rank. The origin of the octagonal form of mausoleum has already been referred to in connection with the tomb of Khan-i-Jahan Tilangani, erected towards the close of the previous dynasty, where it was noted that this particular building was the starting point of a new tradition in tomb architecture. Beginning with this initial example which dates from 1368-9, there is presented a complete sequence of tombs of a similar pattern constructed at intervals over a period of almost exactly two hundred years. The series includes a number of major structures, three of them at Delhi representing kings, besides a group of royal tombs at Sasaram in Bihar, and later, two of eminent nobles also at Delhi, with one of which this type of tomb formation ends. Each phase in the evolution of the octagonal tomb is therefore illustrated, from the Tilangani example showing its inception, its development under the Sayyids and Lodis, its culmination under the Sur dynasty, and its conclusion as seen in the tomb of Adham Khan produced during the rule of the early Mughals. Here it is proposed to refer only to those examples erected during the Sayyid and Lodi rule, the remainder being dealt with later in connection with their respective periods.

The three royal tombs of the octagonal type built during the Sayyid and Lodi regime are those of (1) Mubarak Sayyid, died 1434, (2) Muhammed Sayyid, died 1444, and (3) Sikandar Lodi died 1517, and it is assumed that these monuments were erected within a year or two either before or after their demise. The first two are now more or less isolated structures, any supplementary features that may have originally surrounded them having disappeared. On the other hand the tomb of Sikandar Lodi is a very finished conception, as it stands within a large walled enclosure having an ornamental gateway on the southern side, a mosque on the western side, and octagonal turrets at each corner. Such comprehensive exterior arrangements mark a definite stage of transition, midway between the fortified walls surrounding the earlier type of tomb, and the extensive terraced gardens enclosing the subsequent mausoleums

of the Mughuls. But in all other respects the actual tomb-buildings over the remains of these three rulers are identical in their dimensions and proportions, with the exception that the crown of the dome of the earliest, that of Mubarak, is some four feet lower than those of the other two. Their measurements are 30 feet each octagonal side, 74 feet width, and the height of the dome, excluding the finial is 54 feet, save that of Mubarak which is 50 feet. It is fairly clear that in the case of Mubarak's tomb the first to be erected, although its design is a notable improvement on its prototype of the preceding dynasty, its composition was still a matter of experiment as may be seen from the position of the dome and the kiosks around its drum. (Plate XVI, Fig 2). Those who built it fell into the common error of not visualizing the upper part of their structure as being raised above the spectator's eye, and that from the average line of sight these parts would not only be foreshortened, but would be also masked by those that were lower down and which projected in front of them. The result is a slightly stunted elevation, an appearance of the whole superstructure comprising the dome and its kiosks being pressed down, so to speak, on to the octagonal portion which supports it.

These initial defects, however, received attention in the next tomb of the series, that of Mohammed Sayyid, which was erected some ten years later The builders had acquired the necessary experience. In this example the drum of the dome has been raised several feet, and the kiosks were also elevated to a relatively similar extent. The effect produced is a conception satisfying in all its parts, well-proportioned, pleasingly set out, and fulfilling its needs. Of this class it is one of the most typical examples, and although in the next century larger and more ambitious structures were produced in the same style, the tomb of Mohammed Sayyid holds its own. The principal dimensions have been already given, but it merits further description The width of each octagonal face, which is thirty feet, is equal to that of its height, including the basement and the ornamental pinnacles (*guldasta*) at the corners, this measurement is also half the entire height of the building including the finial. Each octagonal face contains three arched openings divided by pillars, the two other openings being slightly narrower than the central one. It will be noticed that all the lines of its elevation are perpendicular, with the sole exception of those at the angles which are sloped by means of an attachment not unlike a Gothic buttress; this slope persists throughout the entire series The tomb chamber inside is octagonal in plan, 23½ feet in diameter, with an "arch and beam" opening in each face.

Such is a characteristic example of the octagonal type of tomb, and when three quarters of a century later a monument was raised over the remains of Sikander Lodi, a building on much the same lines was produced. There was however a slight modification in its elevation, as the Lodi ruler's tomb has no kiosks, and, it should be remarked, there was also a structural alteration of some significance Hitherto it had been the practice to construct the dome solely of one thickness of stonework, but in the present instance an innovation appears. Here the dome is composed of an inner and outer shell of masonry with a distinct space between the two, in a word it is the first application in Indian architecture of what is known as a double dome. An attempt in this direction had been already made in the construction of a tomb of a slightly earlier date, that of Shihab-ud-din Taj Khan (A.D. 1501), but in the tomb of Sikandar Lodi (c. 1518) the double dome, although still in embryo becomes an accomplished fact. Such an expedient was bound to emerge sooner or later in view of the marked development of the dome as an architectural feature, and had long been put into effect by the builders of Persia, Iraq, and western Asia. The reason for this structural procedure becoming necessary was due to the increasing inclination to raise the height of the dome in order to present a loftier and more imposing exterior. This operation naturally raised the height of its inner surface, or ceiling in the interior of the building, thus causing the latter to be disproportionately tall for the size of the chamber it covered. By building two domes in the form of an inner and outer shell separated by a void, the proportions of both the exterior, and particularly the interior were much improved. Later, most of the larger domes in India were constructed on the same principle, so that the first appearance of such a device in this particular building is important

The other type of tomb, that designed on a square plan, only found favour during the Sayyid and Lodi regime so that all the examples, with one exception, fall within the fifteenth century. But during this period many such tombs were built, some even larger and more imposing than the royal octagonal kind. In the Delhi neighbourhood there are at least seven mausoleums of this order, all of which may be termed of the first class but hardly any of them bear the names of those they commemorate, so that in most instances their correct identification has not been possible They have therefore been designated by their local names only, the word "Gumbad" after each being the vernacular for "dome" These are (1) Bara Khan ka Gumbad, (2) Chota Khan ka Gumbad, (3) Bara Gumbad (1494), (4) Shish Gumbad, (Plate XVI, Fig. 1), (5) Tomb of Shihab-ud-din Taj Khan (1501), (6) Dadi ka Gumbad, and (7) Poli ka Gumbad. Most of them are isolated structures, without any surrounding wall, and if they were originally contained within enclosures, these have since disappeared Some idea of the relative size of the two varieties of tomb may be gathered from the fact that although the average plan of the octagonal example is one-third larger than the square type, on the other hand the latter is one third higher than the former: for instance one of the largest, the Bara Khan ka Gumbad is over eighty feet to the top of its dome, excluding the final, which has been broken off. Differing also from the octagonal type these square buildings have no sloping parts, all the lines and planes are true and vertical. The two and three stories forming their elevation are not definite floors, but merely arcaded zones introduced as architectural decoration to their facades. These facades are so designed as to have the central portion in the shape of a rectangle, projected

and containing a large recessed archway occupying nearly the total height of the structure almost to the parapet. Within this arched recess is a doorway of the beam-and-bracket order, the space above being occupied by an arched window opening. The "stories" of the facade are formed of arched recesses in sunk rectangular panels, those arches on each side of the doorway being made into openings like windows to carry light into the interior. The parapet and the whole of the superstructure including the dome, is treated in much the same architectural manner as in the octagonal examples. A single chamber comprises the interior which is square in plan, with sunk archways occupying each side, that on the west containing the mihrab. In each corner is a squinch arch to support the base of the dome, while over the cornice is a blind arcade with an arch in each of its sixteen sides.

Although this square type of tomb emerges in the fifteenth century apparently unannounced, it is possible to see in its general conformation certain traces of its origin. In the upright rectangular panels, containing the sunk arches which are a feature of its exterior, and the disposition of the various elements of its interior such as the arches in the corners and their relation to the squinch above, there is a similarity to the planning and style generally of the Khalji type of building, as for instance the Alai Darwaza. These tombs are no doubt very far removed in many particulars, from that ideal structure, but that they derive some of their inspiration and arrangements from such a source is tolerably clear. As a whole however the square mausoleums in spite of some of them being large and imposing, are rather characterless productions, they move one but little, the shallow monotony of their arched panels which form the main element of their facades giving them an ineffective appearance.

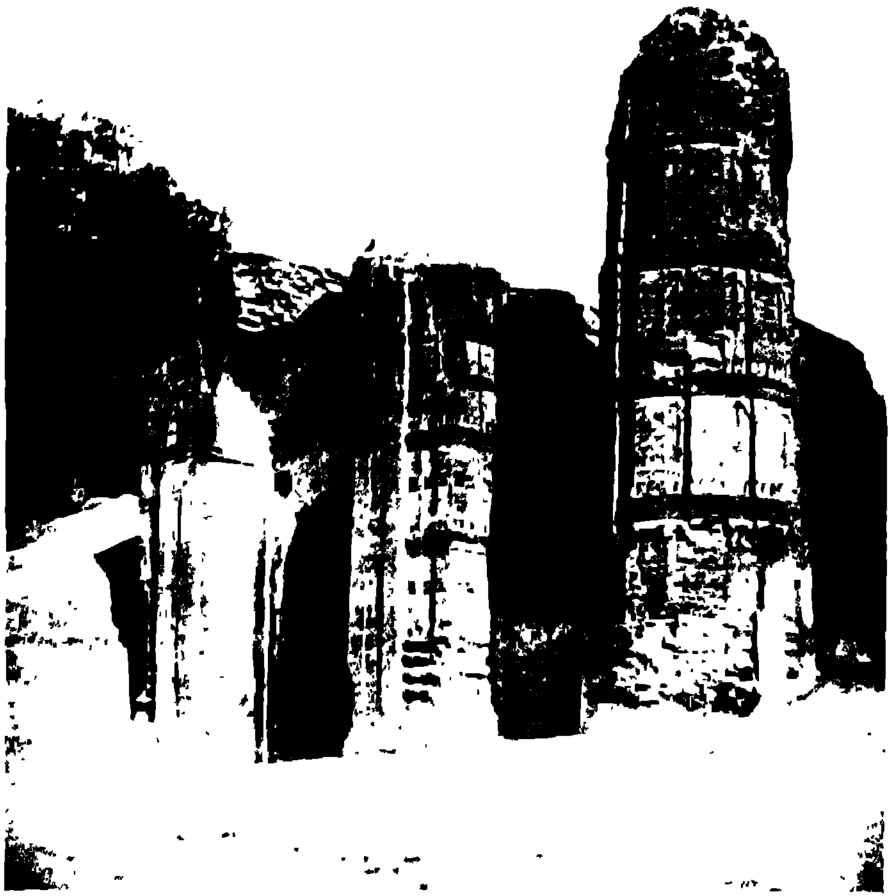
It has been remarked that no large mosques of the public or congregational order were erected at Delhi during the rule of the Sayyids and Lodis, nonetheless there are several mosques of a private nature attached to some of the tombs, and there is also one independent and notable structure, the Moth ki Masjid built by the Prime Minister of Sikandar Lodi. In their specialized form of design these mosque buildings are the preliminary examples of a series produced within the succeeding half century, and which eventually achieved its ideal in a relatively small but perfect specimen of a private mosque, the Qila-i Kuhna, the "Chapel Royal" of Sher Shah Suri in that ruler's walled citadel at Delhi known as the "Purana Qila." The complete series consists of four examples, (1) Mosque attached to the Bara Gumbad, 1494, (2) Moth ki Masjid, c. 1505; (3) Jamala Masjid, 1536, and (4) Qila-i-Kuhna Masjid c. 1550. As in the case of the sequence of tombs, the same system will be followed, and at this stage only first three mosques of the group will be described, the fourth being referred to in connection with its own period.

The earliest illustration of this type of mosque, that attached as a kind of domestic chapel to the Bara Gumbad, is of very moderate size and in several of its more marked architectural features is obviously a logical development of the same class of building as produced in the previous period. This is noticeable in the treatment of the rear wall of its exterior with its tapering turrets and other elements, all in the typical Firuzian manner. Yet on the other hand there is much that is innovatory in its appearance and arrangement, creating the impression that its builders were either reviving some blurred memory or investigating a fresh formula in mosque design. Such a departure shows itself specially in the composition of the facade, as it consists of a range of five open arches, all practically of the same height but of unusual shape proportions, and character. With their weak curves, an excessive width in relation to the height, and outlines unduly emphasized by receding planes in place of mouldings, these arches, together with the whole of that portion of the structure, indicate that whatever their aim, its designers had failed to achieve their object. That at the back of their minds there was some commendable ideal is fairly clear, but it is also equally clear that they were not sufficiently experienced to put it into effect with any convincing result.

The second mosque of this series, the Moth-ki-Masjid erected about ten years later, shows how the previous somewhat nebulous conception by means of intelligent handling was developed into a composition of no little grace and power (Plate XVII). Such an advance suggests that the former was the rough and immature sketch, the germ of an idea awaiting for workmen with the necessary qualifications to convert each of its crude suggestions into a thing of finished beauty. It is considerably larger than the preceding, as the sanctuary itself measures nearly one hundred and twenty-five feet across so that it provided much more scope for their skill. There are several conspicuous and attractive features in the Moth-ki-Masjid, such as the shape and proportions of the five main arches of the facade, with the emphasis given to the central bay, the spacing, disposition, and volume of its three domes, the refinement of the tapering turrets on the rear wall; the design of the doorway and its projecting balcony opening at the sides; and above all, the towers in two stories at the rear corner, which add a note of pleasing vitality to this aspect of the building. There is also the use of colour in the material employed, and more important still the appearance of a variation in the method of supporting the dome. In the central portion or nave, the system of the squinch arch is favoured as found in all the previous buildings, but in the side aisles a form of stalactite pendentive is introduced in the angles to bring about the "phase of transition," a structural and ornamental combination of striking elegance. As with the other and earlier examples of the series, the decoration is of a special character, and of a kind that contrasts effectively with the bold quality of the masonry. In place of the usual carving, patterns in plaster are inserted in the form of borders above the arches and as medallions in the spandrels, exquisite arabesque designs of typically Islamic convention, moulded in low relief and painted in brilliant colours. There was evidently a very talented group of craftsmen engaged in this art during the fifteenth century, reminiscent of that much greater school of









artists who, at about the same time were perpetuating such wonders in a similar technique on the walls of the Alhambra in Spain.

Before the third of this series of mosques, that of the Jamala, was finished in 1536, an epoch-making event in the history of the country had occurred. Ten years previously, in 1526, the decisive battle of Panipat had brought the rule of the Lodis to a close, an episode which also terminated the imperial sultanate of Delhi. An era of the utmost significance therefore comes to an end. One after another of these alien adventurers had ruled, dynasty had succeeded dynasty, royal houses had risen, flourished, and fallen, but the central power established at Delhi, in spite of vicissitudes had been consistently maintained for considerably over three hundred years. And few can now stand in any part of the extensive ruins of this historical Moslem capital without their imagination being stirred by the vivid and romantic drama that these remains represent. Here are displayed both the political and aesthetic aspirations of a long line of forceful rulers, tracing the very pattern of their existence : the inspired vision of Qutb-ud-din with his towering pillar of the Faith ; the megalomania of Ala-ud-din with his vast mosque and colossal minar which he could never have hoped to finish ; Ghiyas-ud-din Tughlaq the hoarder of treasure, his mortuary vaults filled with molten gold ; Tughlaq with his frenzied building projects and such staid results, and many other kings and commoners who sought for immortality by means of city and fortress, of mosque and mausoleum, only for these to fall into decay. And now the great pageant of the Sultanate was finished, and a new magnificence was to fill the stage, that of the empire of the Mughals founded by the talented Babur, prince of the house of Timur.

But in spite of the fundamental changes this movement implies, the original imperial style of architecture in the form that it finally assumed under the Lodi kings continued to be practised for nearly half a century longer, partly on account of its prestige and ancient lineage, and partly because the unsettled state of the country under the early Mughals precluded anything else from taking its place. The Jamala mosque was built therefore during the reign of Humayun (1530-40, interregnum 1555-56) the second of the Mughal emperors, and although confused circumstances were then prevailing, it shows that the building art remained unaffected by the political conditions and was continuing its normal course. It is however also apparent from its design that the builders were endeavouring to return to the more ornate mode of the Khaljis, with its fine ashlar masonry in place of the rubble and plaster construction imposed on them by the Tughlaqs. (Plate VIII Fig. 1.) By comparing the Jamala masjid with its predecessors of the series, it will be seen that a definite attempt was being made towards a refinement of the style generally, and that its designers were aiming at a form of architecture in which better materials and more finished workmanship were the main objects. Yet this mosque, although in treatment and technique is an advance on all previous structures of its kind, was in itself merely a preparation for the fourth and last mosque of the series, the Qila-i-Kuhna masjid in the Purana Qila at Old Delhi. Sher Shah's "Chapel Royal" however, for such was this final example of the movement, not only marks the end of a phase but also heralds the beginning of a new architectural era, in other words it is a connecting link between the old style of imperial Delhi and the oncoming style of the Mughals. It will therefore be described later in dealing with the transitional episode that divides, yet coherently relates these two great architectural developments.

In addition to the series of mosques described above, there are several other buildings of no little significance, some produced before and others after the ending of the Delhi sultanate, but all maintaining in one form or another the architectural tradition of the Lodis. Two of these at Delhi are tombs of noblemen, that of Isa Khan built in 1547, and that of Adham Khan who died in 1561. Moreover away from the capital, in the towns of Kalpi (Bundelkhand), and Lalitpur (Jhansi district), are also monuments in this style, at the former what is known locally as the Chaurasi Gumbaz, or "Eighty-four Domes" is a tomb believed to be of one of the Lodi kings, and at the latter there is a Jami masjid. To these may be added the tomb of Mohammed Ghaus built about 1564 at Gwalior, a building embodying the structure of the Lodi style with ornamental features derived from the architectural productions of Gujarat, a synthesis of the mode of the one and the treatment of the other brought about by its geographical position[1] (Plate XIX). Finally, and of the utmost importance there was developed as far away as in Bihar a group of tombs evolved from the Lodi type but dating from the middle of the sixteenth century, which represents this manifestation in its latest and most imposing form. These distant and distinctive examples were produced during the interregnum of the Afghan king Sher Shah Suri, and are sufficiently independent in their character as to merit, with other works of this ruler a separate chapter.

Among the above, the two tombs at Delhi of Isa Khan and Adham Khan besides being buildings of considerable architectural appearance, contain elements of interest. The former shows in the buttresses of its corner piers the remains of the "Firuzian slope" and is notable as it is the last building of its kind to include this structural batter in its composition. (Plate XXI, Fig. 2.) On the western side of its enclosure is a small mosque which, as it was produced in 1547 and therefore some years after the Jamala masjid, carries this class of building still another stage towards its final achievement, as fulfilled in the Qila-i-Kuhna mosque of Sher Shah Suri. The central building of Isa Khan's tomb is a well-balanced structure, complete in all its particulars, but slightly lacking in height, a defect not uncommon in the octagonal type. An attempt to overcome this failing is obvious in the other example, the tomb of Adham Khan built fourteen years later, not only by erecting the entire conception on an eminence, but in the design of

[1] Architectural Survey of India, Vol. II, 1871

the tomb building itself. Additional elevation has been gained by raising substantially the drum of the dome, thus converting it into an intermediate story, or triforium of no little prominence in the scheme as a whole. An arched recess in each of the sixteen faces of the drum was a skilful device to introduce pleasing passages of shadow into the composition, but the general effect of the building in its entirety is inclined to be trite and uninspiring. The principal facts in connection with this monument are that it is the last true example of the Lodi type, and its treatment and character indicate that the style, as far as the Delhi area was concerned, had attained, even if it had not gone beyond the finality of its expressiveness. (Plate XXI, Fig. 1)

PROVINCIAL STYLE: THE PUNJAB (1150-1325)

As already explained (Chapter I), certain regional manifestations of the Islamic architecture of India, distinct from the imperial and classical style at Delhi, were produced in the more outlying portions of the country. It has been found convenient to designate such separate and self-contained developments as "provincial," some of which, although subsidiary to the main style, were of great importance, as their buildings were often of remarkable beauty and displayed definitely original qualities. None of these actually reproduced the mode in vogue at Delhi, each was a spontaneous movement arising out of the aspirations of those in power at the time to express their aesthetic ideals according to their own natural feelings. There were several factors which conditioned the character of the provincial styles, one of which was the degree of influence exercised by the parent art at Delhi. Where a province was for a longer period more closely associated with the central power the effect of the imperial style is more strongly marked, while as regards those in the more distant parts of the country, this influence is less noticeable. Another important factor in establishing the provincial style was the character of the indigenous arts which prevailed within the area of the province concerned, where these actively flourished and the guilds of local artizans had produced in the past the finest temples, there developed the most elegant mosques and tombs. On the other hand where the art traditions were not so pronounced, the buildings constructed to the order of the Moslem overlords were less distinctive, in certain circumstances there is evidence that the provincial ruler himself or a succession of rulers, generally due to their intellectual superiority, favoured certain tendencies or had a share in their introduction, added to which it is clear that in one or two instances experienced foreign craftsmen found their way to the court, bringing with them the architectural style and principles of their native land. Unusual climatic conditions in certain parts necessitated special treatment and finally there were technical differences, one kind of building material being common in some regions and rare in others, all of which naturally affected the character of the building art.

The principal provincial styles are some eight in number, although it should be noted that there are other minor manifestations in different parts of the country but not of sufficient importance to be referred to as a separate development. These eight main styles may be tabulated as follows:—

A. D.	1 Punjab	2 Bengal	3 Gujrat	4 Jaunpur	5 Malwa	6 Deccan	7 Bijapur; Khandesh	8 Kashmir
1150	1150							
1200		1203						
1250								
1300			1300					
1350	1325	1370				1347		
1400				1376	1405			1410
1450							Khan. 1425	
1500				1479			Bij. 1490	
1550		1573	1572					
1600					1569			
1650						1617	1650 1656	
1700								

The earliest provincial style to emerge was in the country of the Punjab, as here the first contacts with Islam were made through its two principal centres, the cities of Multan and Lahore. Although little more than two hundred miles apart, Islam made its way into these cities during different periods and by separate routes. Multan was first to come within the sphere of Moslem influence, as in consequence of the rather premature Arab invasion of Sind in the eighth century, it became, a century later, the capital of an independent Arab State. Afterwards, due to this early penetration, its associations were continued with Southern Persia to which there was ready access by sea, river, and road, so that this portion of India, including Multan, throughout much of its history, was inclined to be more Iranian than Indian, as its arts even now plainly testify. Lahore, on the other hand, received its Islamic influence at a later date, although not from Persia direct but through what is now the country of Afghanistan, as it was not until the tenth century that Mahmud of Ghazni wrested the Punjab capital from Hindu rule, and brought it within his domination. On the destruction of Ghazni by the rival power of Ghor, Lahore, once the provincial seat of the Ghazni rulers, became the real capital of the diminished Ghaznavide kingdom, and in the twelfth century royal residences to accommodate the princes of that dynasty were a feature of the city

Of the style of architecture that the Ghaznavide palaces in Lahore assumed, there is no information, as they were almost entirely obliterated in the middle of the twelfth century by Ala-ud-din Ghor That they were of much the same character as those in the parent city of Ghazni is most probable, but of this one time most sumptuous city of Moslem Asia there are only fragmentary remains In some of the more remote quarters of Lahore city, there are examples of a very ancient type of wooden architecture, now rapidly disappearing, certain features of which bear a resemblance to the buildings of the Saljuqs of the twelfth century, although they are considerably later in date. (Plate XXIV, Fig. 1) As will be explained in due course, there is much in the treatment of the timber construction of these Lahore examples that can only be indigenous in origin, on the other hand the immense projecting bosses and a particular kind of pattern in the carving are clearly of Saljuqian extraction. The wood employed is that known as "ber" (*zizyphus jujuba*), and is now not often used on account of its rarity It may be assumed therefore that, although the two cities of Lahore and Multan received their Moslem attributions from different sources, with the result those of Lahore were of Ghaznavide Saljuqian origin, while those of Multan were of an Arab-Persian derivation, it is more than likely that on the whole the Indo-Islamic art culture at both centres had much in common. Such building art as these two cities produced it is proposed to regard as of one style, that of the Punjab.

From this rather scanty data combined with information deduced from the type of building evolved slightly later, it may be inferred with some certainty that the pre-medieval architecture of the Punjab was constructed mainly of brick, stone suitable for such purposes not being readily available in the alluvial plain of the Five Rivers. And it was brickwork of a remarkably fine quality, the bricks being not unlike those used by the Roman builders, broad but thin, and when occasion demanded it was not uncommon, for them to be laid in upright courses to insure additional strength. This brickwork it was the custom to reinforce by means of wooden beams inserted in the walls, so that the buildings were timber-framed, with no arches, as the beam and bracket system prevailed. These brick and timber walls were sloped to provide greater stability, the battering surfaces being a survival of an ancient mud brick tradition. In addition to the beams embedded horizontally within the brickwork, there were other substantial wooden elements, notably doorways, with windows above and also overhanging balconies, the whole providing a very artistic wooden facade. To relieve the inconspicuous effect of the half timbered construction, parts of the building were decorated with painted plaster, and there were also panellings of glazed tiles in brilliant colours.

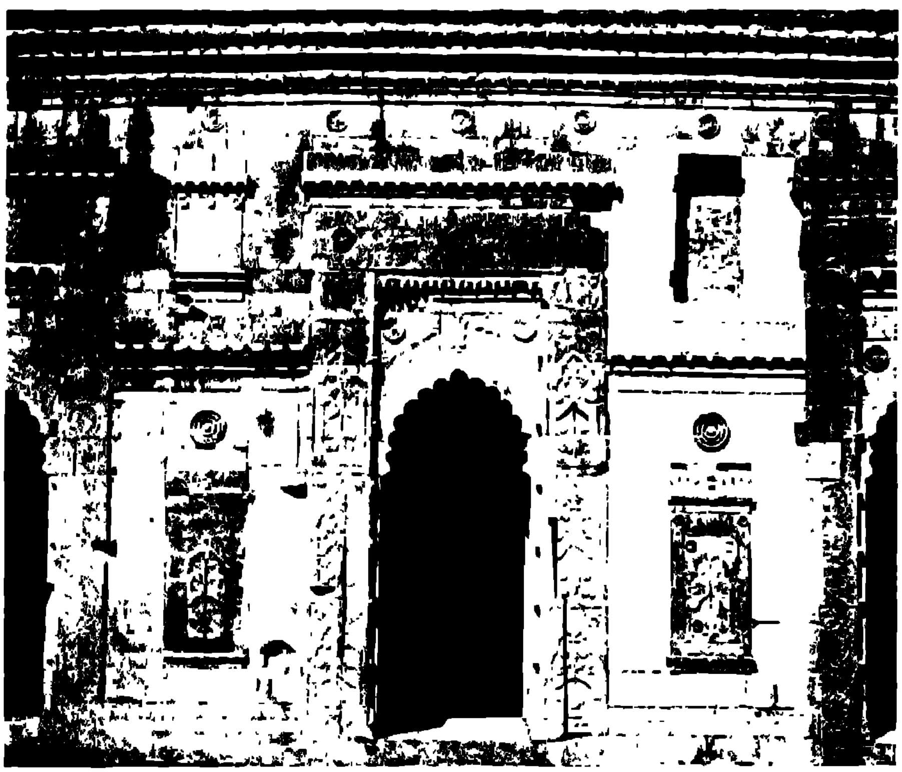
So distinctive in its design and mode of treatment are the remains of this architecture, particularly in the handling of the woodwork, as shown in some of the examples in Lahore city as well as one or two in Multan and also in certain smaller places such as Chiniot, that they imply an unusual derivation. There is nothing quite like this manipulation of wood in any other development of Islamic art, as the doorways are framed with carved designs resembling heavy tassels and knotted fringes, recalling pleated fabrics made of felt drawn up by cords on each side to form the opening. Such a fanciful, and at the same time elegant scheme, combined with the fact that the controlling lines of the building in which they were contained were sloped, recalls in a manner the appearance, shape, and fittings of a tent. So much so that it is a matter of speculation as to whether the entire conception was not a survival of a nomadic existence lived in some of the wide arid spaces of the Punjab and the adjacent Great Indian Desert, where the inhabitants at one time were dwellers in tents. There is something strangely attractive in these wooden house facades, which although basically Islamic are nevertheless strongly impregnated with the imaginative genius of the indigenous craftsman.

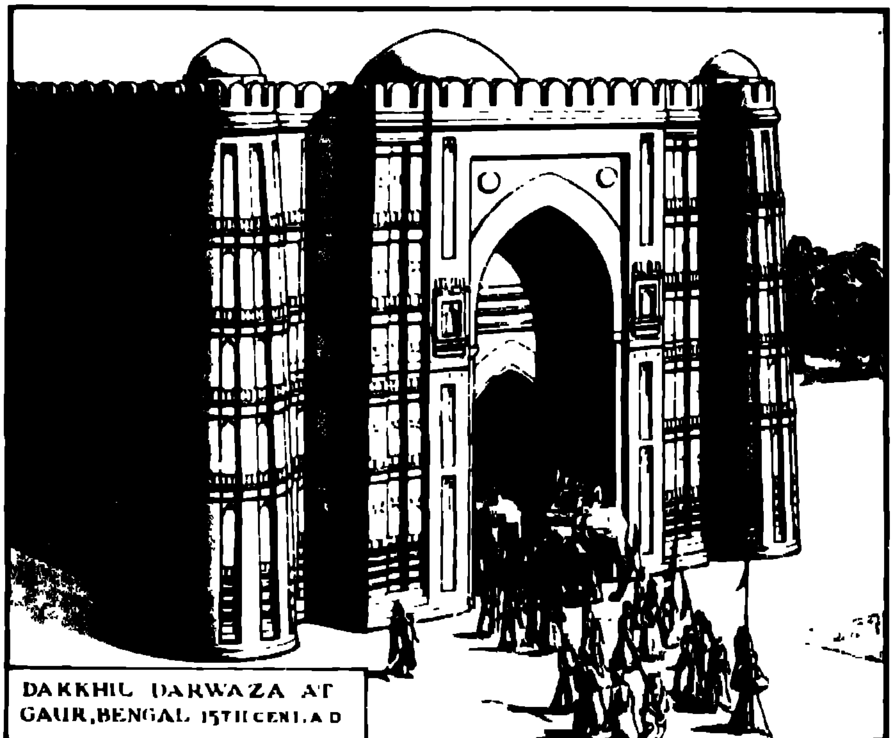
Except for these remains of timber construction, there are no complete examples of the building art of this period in Lahore, but in Multan there is a group of the five tombs of an ancient date which may help to throw some light on the style which immediately succeeded it. Each is the mausoleum of a saintly personage associated with the history of the city, and their construction extends over a period of one hundred and seventy years, from the middle of the twelfth to the beginning of the fourteenth centuries. It is unfortunate that several of them appear at different times to have been seriously damaged, necessitating considerable restoration, so that in most instances some of their structure is relatively modern As a whole, the design of the original building in each example seems to have been respected, and



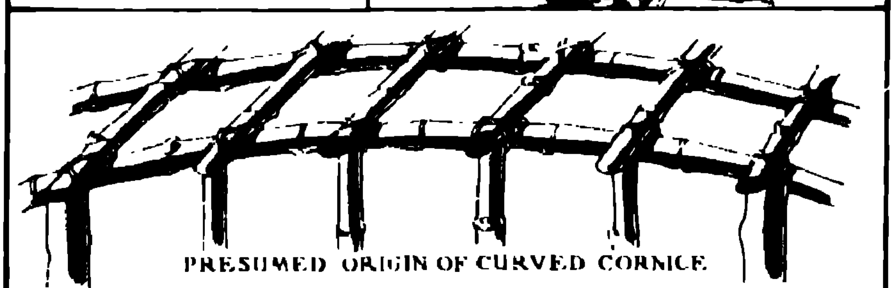




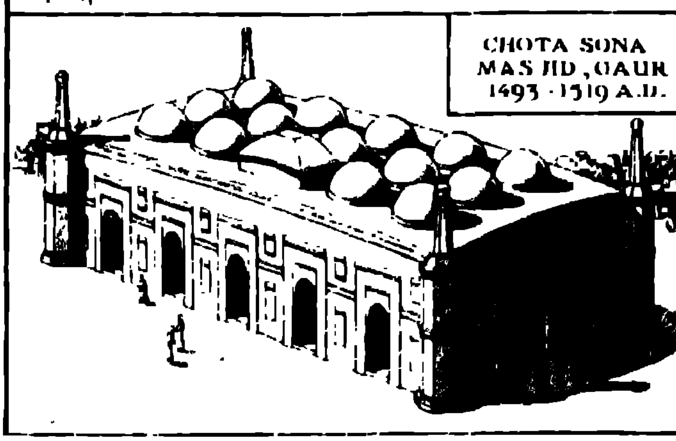




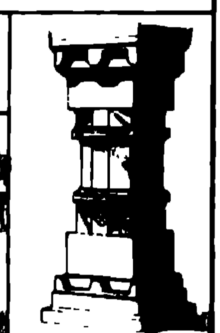
DAKKHIL DARWAZA AT GAUR, BENGAL 15TH CENT. A D



PRESUMED ORIGIN OF CURVED CORNICE

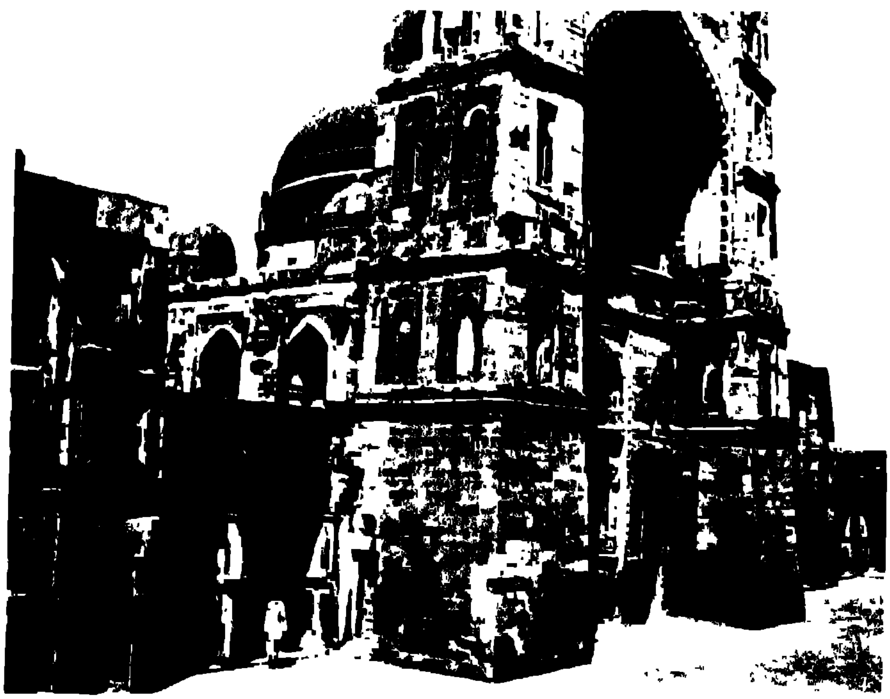


CHOTA SONA MASJID, GAUR 1493 - 1519 A.D.



FROM MOSQUE AT TRIBENI, HOOGHLY, (1298)





t is believed that in architectural effect they may not be very different from their appearance when first erected. These tombs are as follows :—(1) Shah Yusuf Gardizi (1152); (2) Shah Bahau-l-Haqq, died 1262; (3) Shadna Shahid, died 1270: (4) Shah Shams-ud-din Tabrizi died 1276; (5) Shah Rukn-i-Alam (1320-24). All are built of brick and there is a certain amount of woodwork in more than one of them, while glazed tiles find a place in the decoration. The first four are square in plan, but the largest and most important of all and the final example of the series, that of Shah Rukn-i-Alam is octagonal and has a pronounced sloping outline to its lower storey.

The earliest of the group, the mausoleum of Shah Yusuf Gardizi, is believed to have been built shortly after his death in the middle of the twelfth century and its simple rectangular shape suggests that it was possibly an initial effort (Plate XXII, Fig. 2.) In this particular it differs from the other examples of the series and also in the fact that it is in one storey, being a flat roofed cubical building standing within an enclosed courtyard. Its elevation consists of the almost unbroken surfaces of four vertical walls, the sole relief being formed by an oblong portion slightly projected to frame the doorway, and another to contain the *mihrab* in the interior. In common with other buildings of its class which are to be found in Persia, it relies almost entirely for its effect, not on the usual features employed in most architectural compositions such as a variety of planes, contrasting passages of light and shadow, or the definition of mouldings, but wholly on the brilliant play of colour produced by its surface ornamentation of encaustic tiles which encase every part of its outer walls. It is not improbable that most, if not all of these tiles have been renewed at a later date, yet the patterns are still mainly geometrical, some are inscriptional, out floral designs are rare, an indication that the law of the Prophet prohibiting natural forms was strictly observed. Although most of the faces of the tiles are merely painted, some are moulded into a form of low relief decoration denoting an early development of the art, thus presenting a rich plastic appearance as well as a scheme of variegated colour

The three succeeding examples of the tombs in Multan were all built within a period of fifteen years, shortly after the middle of the thirteenth century and are of a very different architectural formation from the foregoing. It is true they are rectangular in plan, but any similarity then ceases, as they are in three stages, the lowest of which is square, above is an octagonal second storey while over all is a hemispherical dome. The earliest to be built, that of Shah Bahau-i-Haqq is the most representative of this type, and is a monument of no little distinction. Consisting of a tall foundational storey some forty feet in height, devoid of ornament but relying for effect on its excellent proportions, the facade contains one feature only, a well-designed arched doorway in receding planes. Over the battlemented parapet of this storey rises a lofty octagonal drum forming with an arched opening in each face an elegant clerestory, above which is the broad ovoid of the dome. Although in its plainness almost austere, yet this tomb has an appearance of purposeful strength combined with a simple elegance which is noteworthy. (Plate XXIII, Fig. 1.)

After the production of these three tombs, half a century elapsed before the Multan builders were again called upon to exercise their art in any monumental work. Then they became engaged on an undertaking which matured into their finest achievement, the mausoleum of the famous saint Shah Rukn-i-Alam, one of the most impressive buildings in this part of the country. (Plate XXII, Fig. 1.) It is recorded that this tomb was executed to the order of the Delhi ruler Ghiyas-ud-din Tughlaq between the years 1320 and 1324, and therefore contemporary, as has been shown, with the construction of his own royal sepulchre at Tughlaqabad. In its design and execution all the experience gained during the fashioning of the previous examples together with that subsequently acquired, appears to have been requisitioned, and then, concentrated on its conception. Unlike its predecessors the plan is not square, but octagonal, an early if not the initial appearance of such a shape in the Islamic architecture of the country, and nearly fifty years before it was accepted at Delhi, as proved by the first tomb of this form, that of Tilangani, built there during the reign of Firuz Tughlaq in 1368 (Chapter IV) Then a striking feature of its elevation is the effect of its sloping sides, the connection of which with the pronounced battering walls of the Tughlaq king's mausoleum referred to above, having been already explained. The slope in the Multan structure was emphasized by the addition of tapering turrets at the angles, a prominent architectural feature which attracted that attention of the enthusiastic builder Firuz Tughlaq who some twenty-five years later reproduced it in his own style of architecture at Delhi. As already shown the slope form of turret, together with the battering wall derived from the Multan tombs, persisted in the Islamic building art of the country, this inclined effect gradually becoming subject to modification, until it ceased after the middle of the sixteenth century. With this facts in view, and contrary to theory, it is clear that the provincial style of Multan, owing to its early appearance and strong originality, instead of being influenced itself by the royal monuments at Delhi, actually imposed some of its more characteristic features on the imperial style.

The tomb of Rukn-i-Alam at Multan is a building of no mean dimensions, as its octagonal base measures 90 feet in diameter, and its total height including its finial is 115 feet, the height of the first storey being 50 feet and the second 25 feet, while the dome is 50 ft. wide inside. Although of brick foundation, its appearance is considerably enhanced by bands of carved timbering sunk into the walls at appropriate intervals, and to provide rich texture and colouring the brickwork is elaborately chiselled, and parts are inlaid with brilliantly glazed tiles. The underlying ideals of its creators are fairly clear. In that element of slope suggesting the diminishing mass of a pyramid and the inclined buttresses supporting the outer angles, the intention was obviously that of stability and permanence. Then its great height,

elevated as the building is on a terrace, is an attempt to dominate the surrounding country and introduce a focal point of interest into the monotonous dead level of the landscape. The tiles were an effort to bring a note of bright colour into the dull dust tint of its desert setting, while its walls of thirteen feet of solid brickwork through which the subdued light passed along the tunnels of the clerestory grilles were a means of shutting out the blistering heat and searing sunlight for which Multan is legendary, thus providing a cool and sombre sanctuary for the saint's last repose. In style this mausoleum represents three patterns of culture, Arabian, Iranian, and Indian, something of the best has been taken from the building traditions of each, to produce a monument of marked architectural character and possessing a solemn grandeur suitable to its purpose.

CHAPTER VIII

PROVINCIAL STYLE, BENGAL (cir. A.D. 1300 to 1550)

IT is little anomalous that in point of time the next provincial development of the Islamic style should be in the distant country of Bengal. Moreover, from the arid plains of the Punjab to the humid deltaic region of the Ganges also implies fundamental changes in every aspect of life and all human activities, including the art of building construction. That early in the Islamic conquest of the sub-continent, a territory so remote from the capital should be invaded and retained is remarkable. But in the course of the Moslem penetration of the country, some of that relentless impetuosity which carried the Arabs across the greater part of the world in the seventh century, seems to have communicated itself for the time being to the conquerors of Hindustan in the thirteenth century, who barely five years after the capture of Delhi, had swept from west to east, and found themselves the ruling power in the Bengal capital. This event took place in 1202, but it was more than a century later before the Islamic occupation produced any kind of building of a sufficiently distinctive character to be called a style. Then mosques and tombs began to be constructed, and the architecture in Bengal assumed a succession of forms which were maintained for a period of two hundred and fifty years.

The results of this movement are to be found in various parts of the province, but the majority of the buildings are grouped within a tract of country now comprising the Malda district of the province of Bengal. Here, near the junction of the two rivers the Ganges and the Mahananda, was the strategic centre of this region, and here, for several centuries in the early mediaeval period, the life of the country was concentrated. Within an area of several square miles in extent are strewn the concrete evidences of a paramount power's continuous occupation of these parts, as shown by the character of the remains, now grown over by rank vegetation, or submerged by the silt and the swamp. There can be few other sites in India containing such a wide expanse of noble ruins, of fortresses, palaces, citadels, immense causeways and embankments, towering city walls and triumphal archways, mosques and tombs, besides scores of derelict sculptures all indicating that here was the common graveyard of several civilizations which have had their day and are now forgotten. Amidst this welter of destruction at least three great cities have been traced, the earliest consisting of Lakhnauti, the seat of the two Hindu dynasties of the Palas and the Senas, and later the two capitals of the Mohammedan invaders, Gaur and Pandua, for during the period of Islamic rule the centre of the administration was transferred from one to the other. It is from what remains of these two Mohammedan cities, supplemented by a few rare examples elsewhere, that the style of architecture evolved during the Moslem occupation of the country may be determined.

It is possible to resolve the Islamic building art of Bengal into three phases, or rather two preliminary stages, and the third recording its ultimate development into a specific style: (1) the period extending from the first conquest of the country and while the capital was at Gaur until it was moved to Pandua, from A.D. 1200 to 1340; (2) from the date when the capital was established at Pandua until the building of the Eklakhi tomb—1340 to 1430 (3) during the period from the date of the re-transfer of the capital to Gaur, until the country was acquired by the Mughals, cir. 1442 to 1576.

The first stage is illustrated by a group of buildings not however at the capital, for nothing of Lakhnauti is now in situ but at what might have been in the fourteenth century the river port for Bengal. Here at the riverside village of Tribeni, a settlement in the Hughli District, and at the hamlet of Pandua in the same locality, the earliest examples of Moslem handiwork in Bengal may be studied. It is most probable that the Mohammedans first established themselves at Tribeni and then pressed inland from the river, eventually, about the year 1340 bringing under their control a considerable area included within the present districts of Hughli and Burdwan. The principal mosque at Pandua, now ruined almost beyond recognition, was a very large structure, its walls and arches are of brick but its pillars are of basalt and evidently taken from dismantled Hindu temples. Less damaged than the remainder is the central aisle where still stands to the right of the main *mihrab* the mimbar or pulpit in carved stone. If the date of its building is previous to the middle of the fourteenth century, as is surmised, this mosque was the model for the much larger and more important Adina Masjid at the Mohammedan capital of Bengal, also named Pandua, to be described later. Although in a sad state of decay this village mosque is a landmark in the development of Moslem architecture in Bengal as it appears to be the earliest existing example of a multi-domed mosque having a quadrangular plan.

Adjacent to this ruin is another building, fortunately kept in a fair state of repair, which although perhaps in the course of its history has been considerably modernised, possesses some architectural value. This is a Tower of Victory, which, according to tradition, was erected by a Muslim saint named Shah Sufi ud-din to commemorate his conquest of the Raja of Pandua towards 1340. Although about one hundred and twenty feet high, its rather inelegant proportions of width in relation to height cannot be overlooked, but the faces and flanges with which its different stories are decorated have clearly been inspired by that much more famous monument the Qutb Minar at Delhi, begun nearly a century and a half earlier. In this example the repercussions of the imperial style under

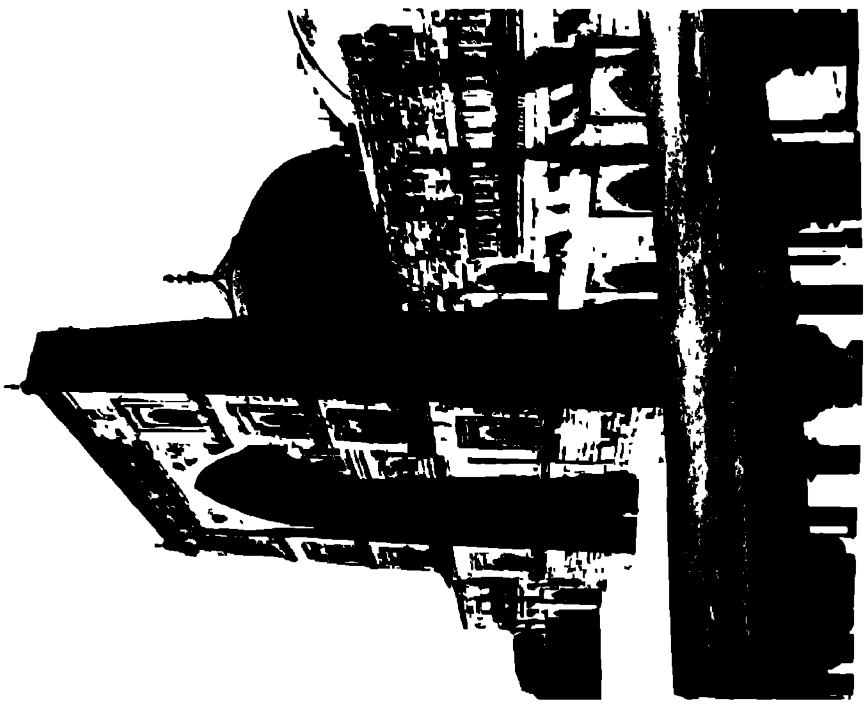
the Slave and Khalji dynasties on this distant provincial development are interestingly displayed.

The remains at Tribeni, the other early Moslem settlement in Bengal, are perhaps older than the foregoing, and in some respects are rather more complete. Consisting of a mosque and tomb the former bears an Arabic inscription recording the year A.D 1298, but the mosque as it now exists, is not contemporary with the inscription, as it was entirely re-constructed into its present form at the beginning of the 16th century. The adjacent tomb however which commemorates one of the first of the Mohammedan adventurers in Bengal, Zafar Khan Ghazi, although damaged by time has remained untouched and is clearly of the earlier date. In this structure it is possible to see an improvisation from a Hindu temple dedicated to the worship of Krishna, its various parts having been taken to pieces and re-assembled in a form suitable to serve as a Mohammedan tomb-chamber In the process of re-erection it was found necessary to supplement portions of the basalt masonry by brickwork walls containing pointed arches, which, if original as they appear to be, are the earliest of their kind in Bengal. As an example of Islamic architecture it is a building of little consequence, but its significance lies in the fact that it depicts clearly the methods employed by the new rulers at this time. The data is scanty, as the tomb at Tribeni is the sole record, but in the absence of productions of an original character on any ancient sites, it is fairly clear that for the first century or more of the Mohammedan occupation of the country, the system of a wholesale conversion of the existing Hindu structures to suit the changed conditions, was the one in usual practice.

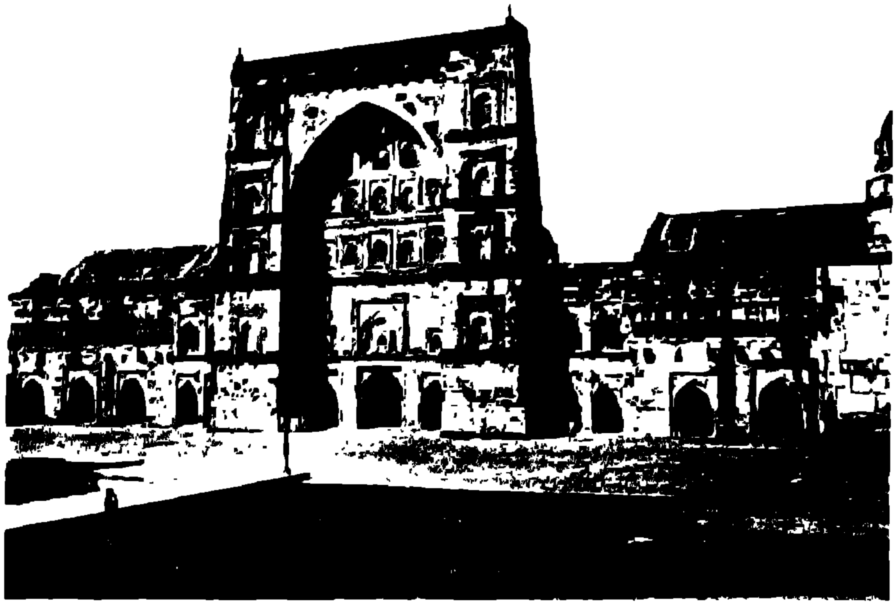
The second stage in the evolution of the building art in this style, is also represented by one example only, but, unlike that of the previous phase, it is the largest and most important Moslem building in the whole of Bengal It was obviously the outcome of an impulse which not infrequently comes sooner or later to those in power to express themselves by means of imposing monuments, original in design and construction and conforming to their own individual ideals. Such a movement in this instance appears to have coincided with the transfer of the capital from Lakhnauti, or Gaur as that city became known to the Mohammedans, to a site some 17 miles to the north called Pandua Pandua itself was however no virgin foundation, its great square mound five miles in diameter bears material proofs of a remote and historical past, and at the time of the removal contained undoubtedly remains of its previous occupation Here the new Moslem capital was established, and the ruler Sikander Shah (1358-89) adopted the traditional procedure of building a congregational mosque as its focal point, which he began in 1364 Now almost completely deserted, some idea of the immense Mohammedan population of Pandua at the time may be gathered from the size of this mosque, which is one of the most capacious of its kind, and could readily accommodate several thousand worshippers (Plate XV) To the spectator standing within the expansive quadrangular courtyard of the Adina Masjid surrounded by its seemingly endless array of archways many of them fallen, the conception as a whole presents the appearance of the forum of some ancient classical city rather than a self-contained Muslim house of prayer, with the high vaulted sanctuary on the western side simulating an imperial approach in the form of a majestic triumphal archway. Yet it is planned on orthodox lines, as the courtyard, which measures 400 feet long by 130 feet wide is enclosed within the usual ranges of pillared aisles, five bays deep on the western or sanctuary side and three on the remainder, consisting of 260 pillars in all. Moreover, the entire composition is encircled by a wall, making its outside dimensions a rectangle of 507 feet long by 285 feet wide, nearly equalling that of the Great Mosque of Damascus (eighth century), to which building mainly on the grounds of size it has been mistakenly likened.

Around the interior of the courtyard and forming a continuous facade, is the screen of arches, to the number of eighty-eight, and surmounted by a parapet twenty-two feet in height from the ground, above which may be seen the domes of the roof one over each bay and amounting to 306 in all. At the south east corner three of the archways are open to the outside and constitute the main entrance, an unusual position, and it seems unfortunate that its designers did not think of introducing a fine lofty gateway in the middle of the eastern side to correspond with and balance the mass of the great sanctuary hall on the west. There are three other entrances but consisting of quite small doorways in the western wall towards its northern end. Two of these lead to an upper storey, a compartment imposed on the northern aisles of the sanctuary and known as the *Badshah-ka-Takht* (King's Throne), but in reality a private chapel reserved for the king and the ladies of the royal household. The design and construction of this portion of the mosque display several notable features, as the upper storey is supported on a range of arches carried by pillars of a remarkable type. (Plate XXIV, Fig. 2.) They are very short ponderous piers rather than pillars, abnormally thick, square above and below and surmount by massive bracket capitals Pillars of a similar type are found in other buildings in Bengal but are seen nowhere else in India, and are unique. On the other hand the pillars actually forming the upper storey are of more usual proportions, with graceful fluted shafts and expanding lotus capitals, all of which, both above and below, having evidently been removed from same pre-existing Hindu structure of exceptional character. Within this chapel royal and all along the inner face of the western wall alcoves containing mihrabs have been inserted, thirty-two in number, one opposite the centre of each bay and all exquisitely designed and sculptured.

But unquestionably the most impressive portion of this mosque was the central nave of the sanctuary which, even now that it is roofless and shattered, still retains some of its original stately appearance. It is in the form of a well-proportioned hall aligned east and west and therefore transversely to the ranges of the five aisles which extend from each of its sides. In length it is 70 feet, and 34 feet across, while the height from









the paved floor to the ridge of its pointed roof was probably 50 feet, dimensions corresponding approximately to the lady chapels in several Gothic cathedrals. The facade, which has almost entirely disappeared was a rectangular screen 50 feet across and 60 feet in height up to the ornamental merlons forming its parapet. Within this frontal screen was the entrance to the sanctuary, a pointed archway 50 feet high and 33 feet wide, a most imposing portal in keeping with the dimensions of the hall to which it gave access. The scheme of the facade was completed by minor archways, on each side of the rectangular screen above the parapet, and containing staircases by which the muezzin could ascend to an upper platform, on the same principle as the Qutb mosque at Delhi.

The interior design of this hall was equally striking. Along each side were the five tall pointed arches leading to the aisles, and through these, their endless length and the diminishing perspective of their piers might be viewed. It is however to the roof above that attention is specially directed because although now in ruins, it seems fairly certain that it was at one time a superb pointed arched vault. If this is correct it is the earliest example of a form of construction very rare indeed in Indian architecture. What the exterior of the vault was like is not clear, but the whole superstructure appears to have been composed of a stupendous mass of brickwork several feet thick, and it is not unlike by that on account of its undue weight it has collapsed.

No description of this sanctuary hall would be complete without a reference to the treatment of the noble expanse of wall surface at its western end. Here are three outstanding elements essential to the ritual—a central mihrab, another supplementary one to the side, and a mimbar or pulpit. In the space above these on each side carved in relief is a large rosette, or full-blown lotus, standing out crisp and sharp from the plain surface of the wall, while high up over the whole is raised an interlaced ornamental device, boldly produced so as to be seen distinctly from the ground. All are exquisitely wrought but the eye naturally turns towards the main feature, for few examples of architectural plastic art can equal the design and execution of the central mihrab. This is in the form of a trefoil arched alcove contained within a rectangular framework, above which rise several tiers of mouldings and narrow panels delicately inscribed, rather than carved, with arabesques and calligraphic texts. But the alcove itself is the principal object, not only on account of its graceful shape but because of what it reveals, as nothing in the building art of Bengal could throw a clearer light on the aesthetic conditions that then prevailed. For this mihrab is a copy, with slight adaptations, of the type of niche found on numerous ancient sites in Bengal and Bihar, which enshrined images of the Buddha and also figures of the Hindu deities. It is true the *suraj mukh* or "sun face" at the apex, and the *hansa* or sacred goose at the spring of the arch have been converted into patterns of conventional and therefore innocuous foliage, while the interior of the recess has been panelled with the Islamic motif of the hanging lamp of light, but save for these relatively minor alterations, this Moslem mihrab might have been a canopied niche on a Buddhist stupa of an ornamental *devagosta* within a Hindu temple. (Plate XXV.)

Although of proportions approaching the grandiose and evidently manifesting an attempt to satisfy the craving for size only, the Adina Masjid presents a certain grave and stately dignity. It is vast but it has mass and largeness as well as space-value, while the scale throughout has been consistently maintained. Some of this breadth of effect has been obtained by the quality of the materials employed, and the able manner in which they have been applied. Much of the upper part of the building, including the arches and domes was of brick, but a great deal of the substructure of the facade was composed of finely prepared basalt masonry. None of the stonework is original, it was all stripped from pre-existing Hindu structures at Lakhnauti and places in its immediate neighbourhood. It is very doubtful whether the Moslem overlords ever obtained any of their stone from the natural sources of the Rajmahal quarries, all their masonry being evidently composed of ready-made spoils. Proofs of this may be seen in many parts of the Adina mosque, of carved blocks being inserted with their figures surfaces embedded in the interior of the walls, as in the mimbar of the sanctuary; of whole doorways being placed wherever required as in the entrance to the Badshah-ka-Takht, and there is good reason to believe that all the three hundred pillars have been appropriated from Hindu structures. Many temples and palaces appear to have been dismantled to provide the amount of stone required and it is not improbable that the finest monuments of the Hindu capital of Lakhnauti were demolished in order to produce this one Mohammedan mosque.

Among the numerous features that this structure brought into the building art of Bengal two are of more than ordinary importance, one relating to its aesthetic appearance, and the other to its constructional character. The former refers to the type of arch that was adopted by the Mohammedans in the building art of these parts, and which was maintained with little variation throughout its entire course. It is a singularly graceful form of what is known as the 'drop' arch, having its centres at the import level and with its span greater than its radii, and is therefore not unlike that which was being used about the same time with such effect in English Gothic churches of what is known as the "Decorated" period (1300-50). The other and constructional feature concerns the method by which most of the buildings were roofed. The plan of arched bays which formed the interior design of the mosques was an arrangement inviting the introduction of some system of cross-vaulting, but with the exception of the vaulted roof over the nave of the Adina mosque, previously mentioned, this was not adopted. Instead small domes were raised over each bay supported by pendentives of an interesting kind. These pendentives were formed of bricks built in oversailing courses, the bricks in each alternate course being set diagonally so that their corners project, a

process of transition from square to circular already employed in some of the buildings in Delhi and also seen in the bricks tombs of Multan. An early example of the application of this principle is in the Great Mosque at Raqqah in Syria, dating from the eighth century A.D., and it was probably from a somewhat similar source that the Indian method was originally derived.

It is impossible that the Adina mosque could be the only structure of importance produced during the fourteenth century at Pandua, but all others have disappeared. On the other hand at Gaur there are certain remains which, although they throw but little light on the style, indicate that progress in the art was maintained. Among them are the mosque and tomb of Akhi-Suraj-ud-din which were probably founded about this time, but both structures have been considerably altered by restoration. Another example, but grievously ruined is the Kotwali Darwaza built as the southern entrance to the city of Gaur, and apparently of the same date, as it has certain features similar in style to the productions of Firuz Tughlaq (1351-88) at Delhi, as for instance the projecting turrets on each side of its pointed archway which, like buttresses, taper in the same manner as those in the imperial capital.

There now remains the third and most matured phase of Moslem architecture in Bengal which beginning, about the year 1400 seems to mark not only a change but a clear break with the past. It prevailed during the fifteenth and for the first half of the sixteenth centuries, and depicts the style when it had yielded to its environment and had adapted itself to indigenous conditions. The country, originally possessed by the invaders, now possessed them. The two main factors responsible for the decisive alteration in the character of the building art at this time and which account for its unmistakable appearance, are the influence of the soil on the one hand and the climate on the other, and how the ruthless inevitability of both was being realized. As to the former the nature of the country impressed itself indelibly on the inhabitants and their perceptions; it is reflected in all their activities, notably in the treatment of their buildings. It has been already postulated that one of man's prime aims in building is durability, yet in a terraqueous country like Bengal such an ideal had very definite limitations. In this deltaic region even the universe itself is inconstant; the not uncommon changing of the river beds, the frequent erosion of their banks, the silting up of water-courses and the many anxieties attendant upon the vagaries of devastating floods, all these were the experiences of the people, experiences which could not fail to have a profound influence on their outlook. In such circumstances is it to be wondered at that they affected buildings of a transient type, largely composed of wood and bamboo and so constructed they could be readily replaced or removed in times of emergency?

The other factor was the climate of Bengal, the extreme humidity of which also conditioned the style of its buildings. To throw off the excess of water during the heavy rainy season, it was found that a surface, shaped to a curve achieved this most satisfactorily, and the readiest way to obtain such a curve in any structure large or small, was by means of bent bamboos covered with thatch. Thus a special form of curved roof was devised for the purpose and became in the course of time a fixed convention, almost all buildings of whatever material displaying this feature, or at least containing in their formation the curved cornice which represented it. (Plates XXVI and XXIX).

These, with other supplementary causes, were sufficiently fundamental to determine the form that the buildings should take, and in the beginning of the fifteenth century an early example of what may be termed the regional Islamic style comes into view. This is a mausoleum at Pandua known as the Eklakhi tomb, recorded to be that of Sultan Jalal-ud-din Mohammed Shah (A.D. 1414-31), and therefore dating from about A.D. 1425. It is a building which assumes importance for three reasons, firstly it is a structure of marked architectural character in itself, secondly it forms an evolutional landmark as it is the initial building of its kind, and thirdly it is the prototype of most of the subsequent Islamic architecture of Bengal. A simple and refined conception, it consists of a square substructure measuring 75 feet side with a height of 25 feet up to its triple curved cornice, the whole being surmounted by a plain hemispherical dome of 46 feet diameter. Octagonal turrets project from each corner, and a string course carried horizontally across the middle of the facade, simulates an appearance of two stories, an effect emphasized by a series of ornamental panels being spaced not unlike a blind storey or triforium along the upper compartments. There is an opening in the centre of each side, formed of a stone doorway torn bodily from a Hindu temple, but with a pointed arch inserted above the lintel, so that as a whole it resembles the arch and beam combination in the Firuzian buildings at Delhi. The tomb-chamber within is an octagonal hall 47 feet wide, having no windows, light being admitted through the doorways mentioned above. In this building is seen an early example of the curved cornice inherited from the bent bamboo forming the eave of the thatched cottage, but it is not the only feature derived from such a source, as the facade itself is divided up into a series of projecting and recessed chases suggestive of the framework of a wood and wattle hut.

Towards the first half of the fifteenth century, having definitely embarked on this semi-indigenous style of building as illustrated by the Eklakhi tomb, the Moslem rulers proceeded during the succeeding hundred years or more, to produce a number of buildings of the same type, but elaborated, modified, or enlarged, according to their functional requirements. One monument, however, of the fifteenth century stands apart on account of its different intention and distinctive character, a building composed very largely of brick and a most impressive example of its kind. Building in brick had been practised for a very long time in these parts, as the numerous remains of previous Buddhist stupas and monasteries are abundant proof, but during the Moslem regime it developed into a form of construction which

became pre-eminent, and in no part of India is there finer brickwork than in the Indo-Islamic architecture of Bengal. The Dakhil Darwaza, therefore, as this great structure is called, although of immense proportions, presented no special difficulties to the hereditary brick builders, but nevertheless it is a remarkable testimony to their skill. Built as a triumphal arch, or saluting gateway, and aligned to face the citadel of Gaur, it is believed to have been produced to the order of Barbak Shah (1459 74), so that its date would be about A.D. 1465. Measuring nearly 75 feet across its front and 113 feet from front to back, it is 60 feet in height, with an arched passage carried through its centre 132 feet wide, 24 feet high and having guard rooms opening out on each side. (Plates XXVI and XXIX).

From these dimensions it will be seen that the Dakhil Darwaza comprised a great mass of masonry, but its bulk was broken up by projections and recesses, both angular and circular, in a singularly original manner. Thrown out from each corner is a prominent rounded bastion, between which and the central opening is a pylon-like buttress, one on each side of the frontage and guarding the portal. The two pylons in front are connected with each other by an archway, thus providing a deep and wide portico containing the arched opening. Not a little character is given to the entire scheme by the circular bastions at the corners being built to a taper, and surmounted by rounded cupolas, but most of the superstructure has fallen, although it obviously resolved itself into a picturesque grouping of pyramidal roofs, domes, and similar features, forming a varied and attractive sky-line. The alteration of the surfaces of its facade by means of the turrets and bastions produces striking contrasts of light and shade, and these surfaces are enriched by a certain amount of ornamentation in terra-cotta, consisting of such motifs as flaming suns, rosettes, hanging lamps, fretted borders, decorative niches, and other patterns judiciously distributed. In design the Dakhil Darwaza implies an interesting fusion of the classic and the romantic, with traces of the indigenous or rustic. The classic is represented by the grand shape and proportions of the portal and its arched portico, and the romantic quality may be seen in the position and slope of the corner bastions, while the influence of the country may be observed in the ingenious surface treatment obtained by a system of vertical and upright lines and mouldings thus presenting a naively elementary pattern of rectangles. Although a century later than the great Adina Masjid at Pandua, this triumphal arch at Gaur shows that the Moslem rulers still retained their grandiose ideals which found expression in spectacular monuments, not however devoid of architectural dignity and power.

During the seventy-five years that followed the erection of the Dakhil Darwaza there were built a number of mosques and tombs all of much the same architectural character, and of which the Eklakhi tomb already described was the original model. Of these buildings the mosques depict the type which was eventually produced in Bengal, when, although, an open square sometimes fronted the structure the traditional courtyard was discarded, and the closed-in or covered hall was adopted, a change necessitated very largely by the heavy and incessant rainy season. They are rectangular in plan, usually oblong, their exteriors consisting of a long and somewhat low facade with a curved cornice above and a range of pointed arches below, sometimes as many as ten or twelve of these openings extending along the front of the building with two or three on the shorterside. At each corner a turret projects generally octagonal in section and terminating in a finial not unlike those on the Firuzian productions at Delhi. The walls are spaced out into rectangular panels often enclosing ornamental niches, while filigree patterns are carved around the doorways and in the spandrels giving the whole a rich and variegated texture. By means of arcades of pointed arches the interiors are divided up into a number of aisles, the supports being either brick piers or stone pillars, the latter in most cases having been acquired from Hindu structures. The arched aisles extend the whole length of the building producing an effect singularly like that of the nave of a Gothic church. Where these arcades intersect they form square bays, each one being roofed over by a small hemispherical dome the circular base of which is supported on a pendentive of bricks coursed at an angle, thus resembling a simplified form of stalactite vaulting. On the inner surface of the western wall of the mosque a series of arched mihrabs is sunk, the largest and most important being opposite the central bay, and all are elaborately decorated with carving.

One of the earliest mosques of this type is the Tantipara masjid at Gaur, erected about 1475, and in some respect depicting the style in its ripest aspect. (Plate XXVII, Fig. 2.) Measuring externally 71 feet long by 44 feet wide, its facade is a long rectangle, the upper edge of which is a double cornice bent to the characteristic curve. Within the facade are five pointed archways connected by a string-course of a slighter curve than the cornice above which, carried across the centre of the frontage divides it longitudinally into two equal parts. Such an elevational layout is not very elegant in its proportions, but it is relieved by the intelligent treatment of its surfaces, a decorative scheme which consists of each area between the arches being occupied by an upright panel containing an ornamental arch surrounded by delicate floral patterns, all in terra-cotta relief. There is other plastic decoration around the archways and the whole effect, although it may err on the side of the excessively ornate is not unpleasing. The interior consists of a fine hall measuring 76 feet long and 31 feet wide, and is divided into two aisles by stone pillars, of the square and chamfered variety originally part of a Hindu temple. The mihrabs and other features of this sanctuary are enriched in the same technique and on the same principle as the exterior.

Another building similar in type to the foregoing but of a slightly earlier date as it was constructed about A.D. 1440 is the Sath Gumbaz, not however one of the mosques at the capital, but at Bagerhat, a town much more to the south and on the Bhairab river nearer to the mouth of the delta. Its chief feature is a facade of

eleven arches, the central one being larger than the others, but it is also remarkable for its circular and almost detached turrets as the corners which, with their bastion-like character and rounded cupolas recall the angle towers of the mosques at Delhi of the previous century. These occasional borrowings from the imperial style testify to the intermittent nature of the association, both political and architectural, which was maintained with the central power.

After the building of the Tantipara Masjid about A.D. 1475, there ensued a period of over half a century when examples of this type of mosque appear to have been produced at intervals of every few years. Most of them are at Gaur and are (1) the Chamkatti or Chamkhan masjid, c. 1475, (2) the Daras Bari masjid, and (3) the Lotan masjid both about 1480; (4) the Gunmant masjid, c. 1484; (5) the Chota Sona masjid c. 1510; (6) the Bara Sona Masjid 1526; and (7) the Qadam Rasul mosque, 1530. There is also a mosque at Bagha, a town in the Rajshahi district and dated 1523 Some of these buildings are of considerable size as for instance the Bara Sona Masjid (Great Golden Mosque) which is the largest of all the monuments in Gaur, having an open square in front of 200 feet diameter, with handsome arched gateways in the middle of three of its sides. The sanctuary, a rectangular structure of brick faced with stone is 168 feet long by 76 feet wide, its parapet 20 feet high forming a long shallow curve below which is spaced a series of eleven pointed arches between the octagonal turrets at the angles. Its interior contains impressive aisles of arches carried in front of the western wall within which is a mihrab opposite each bay. The Daras Bari is another large mosque built of brick but with its pillars of stone. Among the many terra-cotta patterns on its walls is one representing an unusual foliage subject which, in intent, is similar to one produced as far away as Ahmedabad in the Sidi Savyid mosque and built about the same time (Chapter IX). It depicts the phenomenon of a parasitic creeper growing out of a crevice in the trunk of a palm-tree (the "palm- and parasite" motif), which spreads itself out so that it fills the entire space with its leafage, but in the course of time it will torture and finally strangle the larger tree in its sinister embrace. Whether any contact could have been possible between the designer of these two works of art, so alike and yet so distantly situated is a matter for speculation.

Another fine building at Gaur is the Gunmant masjid, with its vaulted ceiling carved with relief decoration rich in new detail, while in the Chota Sona Masjid (Small Golden Mosque) the five arches of the facade are of the multiform pointed order reminiscent of a similar form of cusp in the arches of the screen of the Arhai-din-ka-Jhoinpra at Ajmer. Finally, there is the Qadam Rasul mosque, a substantial structure with the three arches of its facade supported by examples of that excessively short and powerful pillar characteristic of the Bengal style, and apparently extracted from some previous Hindu building. This massive form of pillar is also well illustrated in the restored mosque at Tribeni in the Hughli District, and reconstructed about the same time, so that the only two buildings on this site are instructive as the tomb represents the beginning and the mosque the end of the movement. For the Qadam Rasul at Gaur, in spite of its ponderous columns, records in other parts of its composition that littleness of treatment which usually predicts the approaching decline. Its wall surfaces are divided up into a monotonous diagram of panels, each repeating the same meaningless and stilted motif, giving the whole a trite and stylized appearance. It is from such an example showing the beginning of the decadence, that the true value of the style may be appraised, especially in the insistent curve of the cornice its most original and characteristic feature. In the first buildings the effect of this downward curve has the charm of strangeness and possesses a certain refinement not by any means unpleasing. But in the Qadam Rasul, and also to a lesser degree in the mosque at Bagha built in the same decade, the elements with which it is combined and by which it is supported have lost their robustness, with the result that the whole structure tends to become flaccid and formless. (Plate XXVII, Fig. 1.)

One monument at Gaur, not a mosque or tomb but a circular tower called the Firuz Minar and built about 1488, appears to have been erected to serve the two purposes of a Tower of Victory and also as a *manarah* for the call to prayer, on the same principle but to a much smaller scale as the Qutb Minar at Delhi. It is about eighty-four feet in height and in five stories, the three lowest being twelve sided while the two upper are round. Most probably it was finished above by a rounded cupola in the Firuzian style of Delhi, but the upper part has fallen. A feature of this tower is its decoration, which besides the embellishment in brick and terra-cotta, also included certain patterns in blue and white glazed tiles. Such a distinctive form of enrichment in colour which is also found in the facades of the Tantipura and Lotan mosques, does not appear in the earlier examples and was probably introduced into the Bengal buildings from Delhi in the first half of the fifteenth century. Most of this glaze is rather roughly executed with insipid colouring, and shows little evidence of having been practised with any great skill, although it adds a contrasting note to the dull red to the brickwork On the other hand the terra-cotta ornamentation which is much more profusely applied, has every characteristic of an art having an ancient heritage. This relief decoration as a rule was not moulded, but curved in the clay when it was in the "green" ductile state between the wet and the dry, and afterwards fired. (Plate XXVII, Fig. 2.) Judging from the character of the patterns and their technique, it appertains to a form of folk-art, and in the Hindu period depicted sacred symbols, primitive motifs, legendary incidents, and even continuous figure subjects from the age-old mythology of the country. Under Moslem rule the local workmen had to adapt their art to the new conventions, and produce abstract designs of a geometric, arabesque, and nondescript foliage type. As to the stone carving on the Mohammedan buildings where it was original it was the handiwork of Hindu artizans, but prepared from patterns and inscriptions specified by



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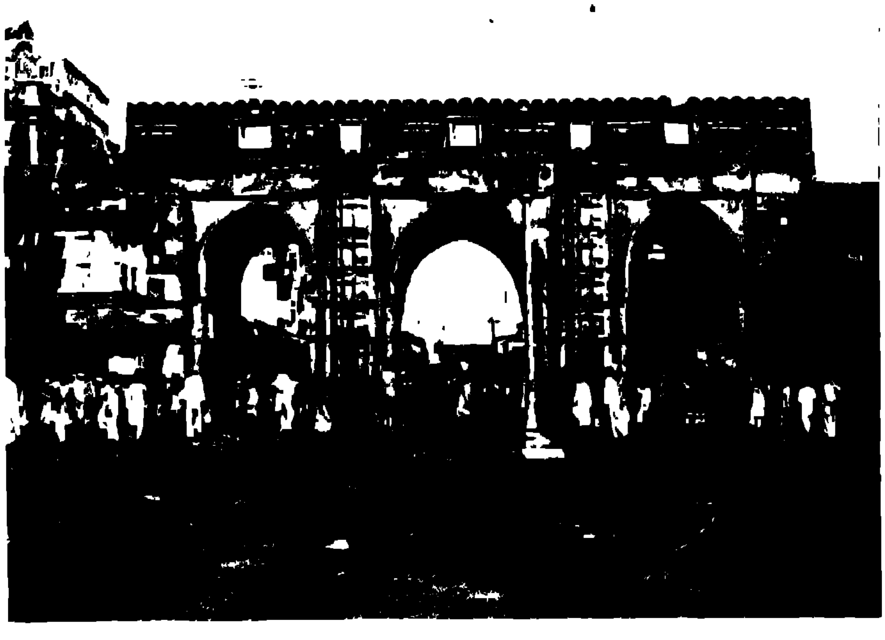
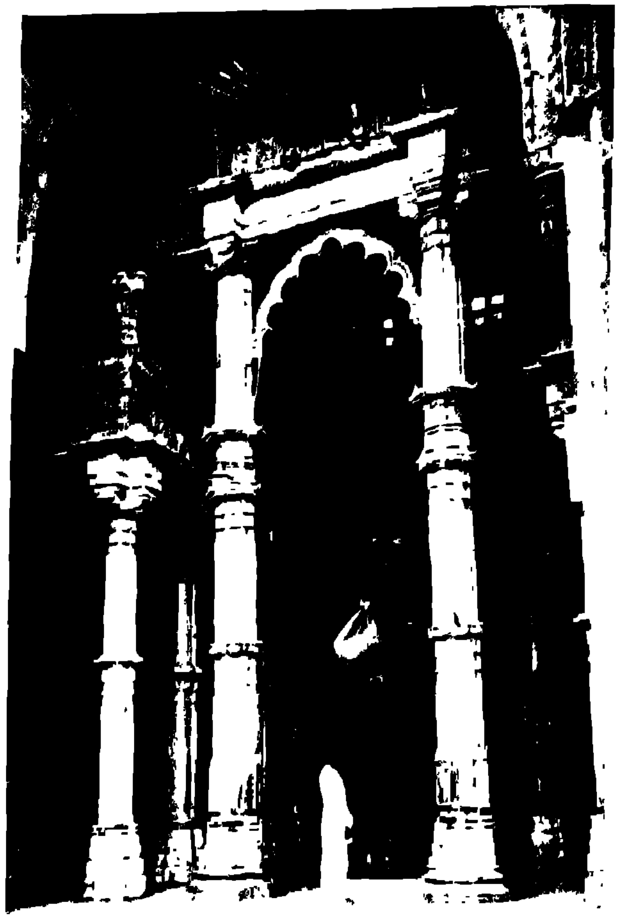
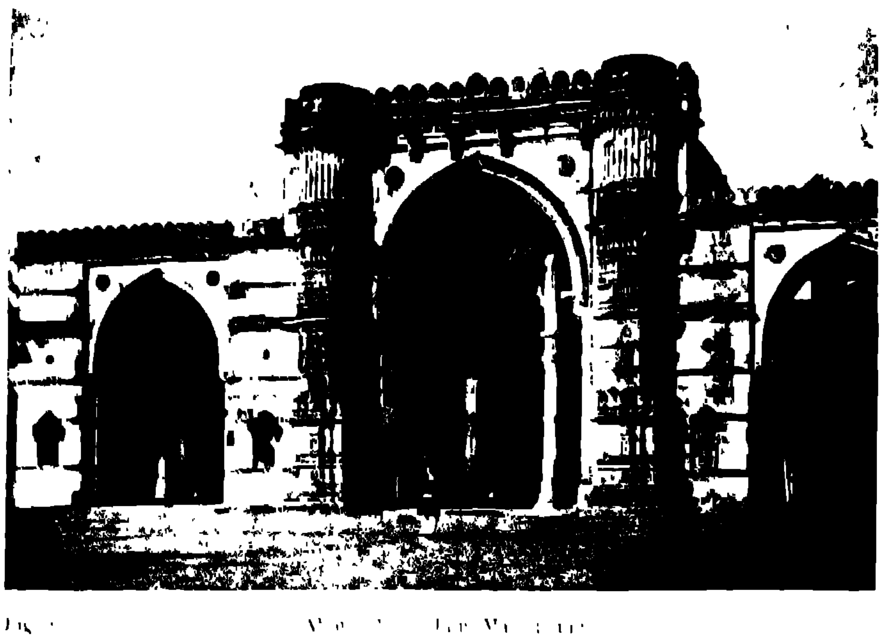
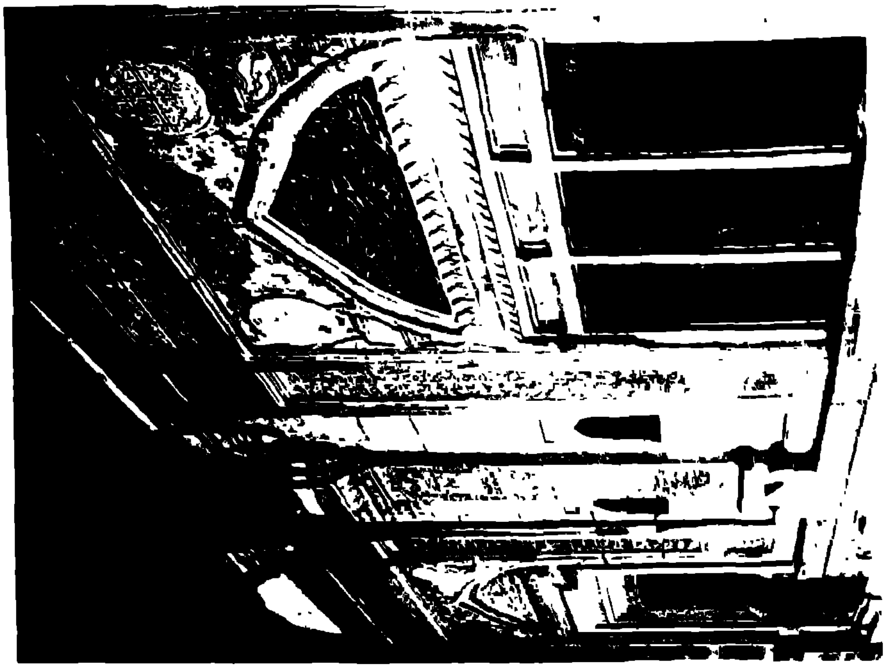


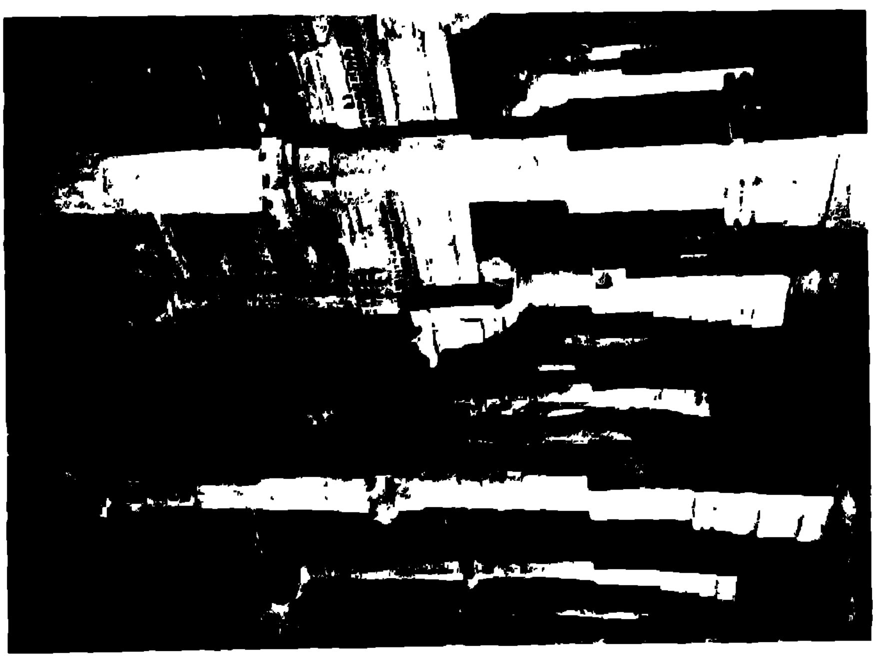
Fig. 2 Ahmedabad, Tin Darwaza [illegible]

XXXIV

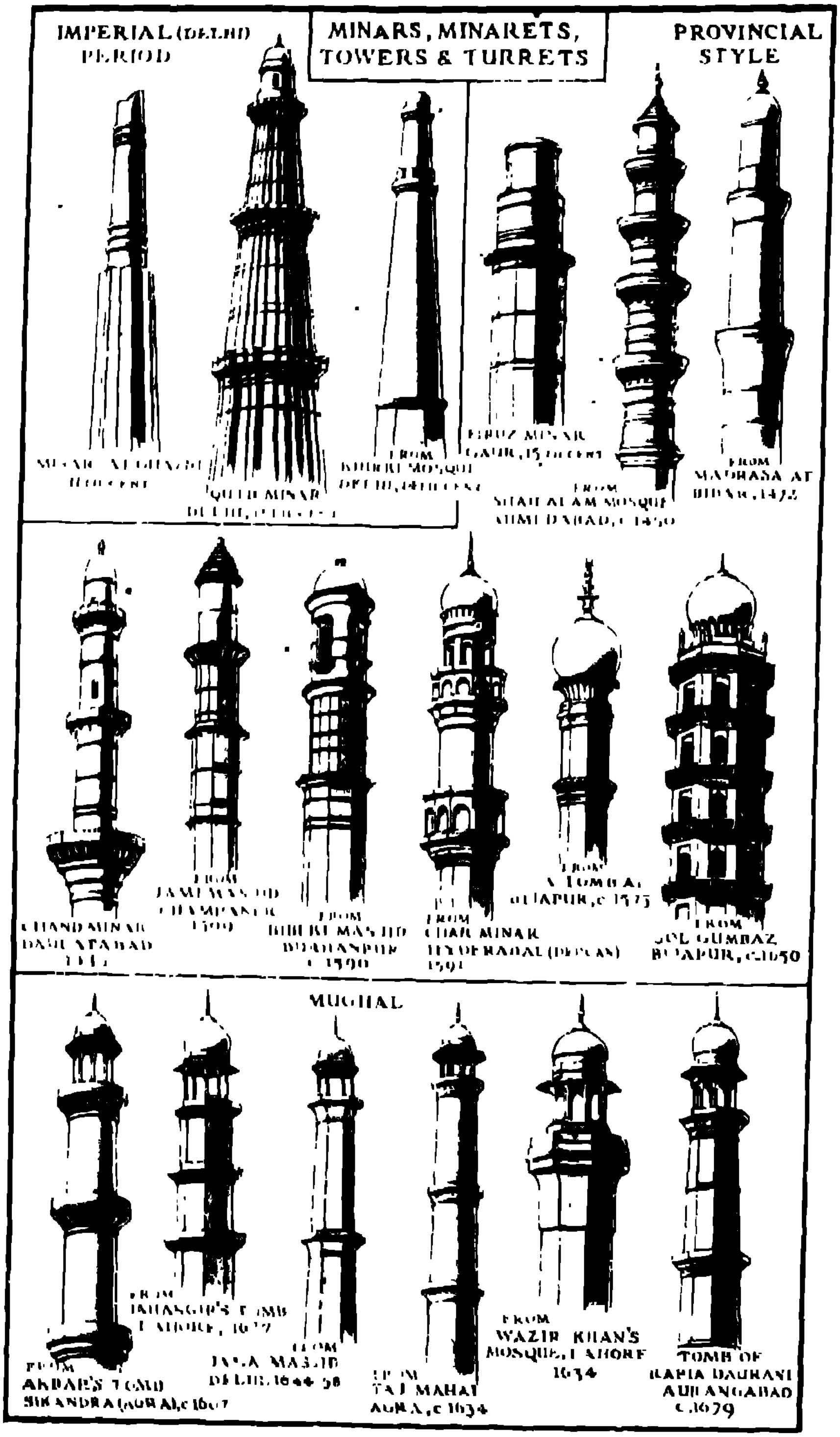


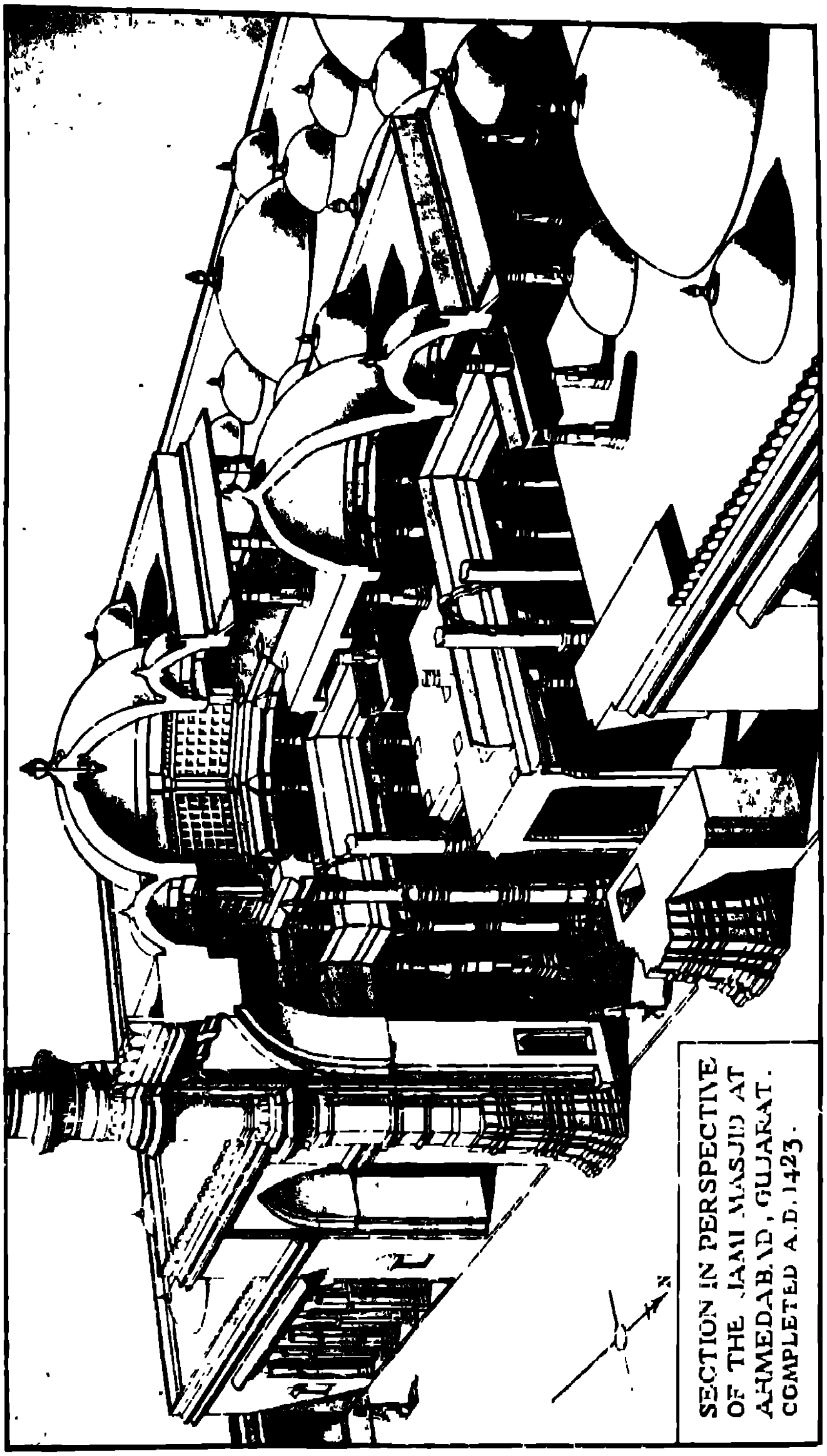




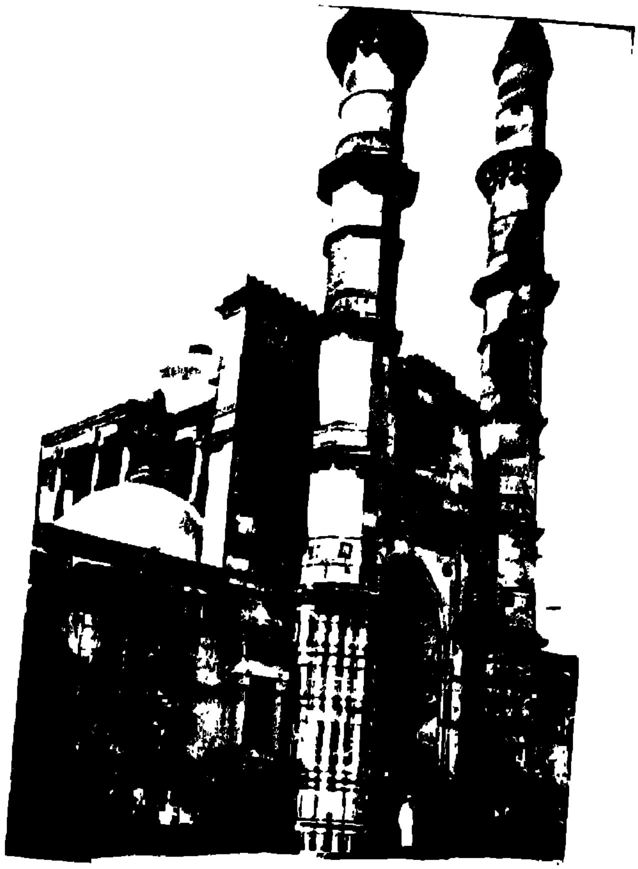


XXXVI


IMPERIAL (DELHI) PERIOD
MINARS, MINARETS, TOWERS & TURRETS
PROVINCIAL STYLE
FROM MADRASA AT
FROM CHAR MINAR
FROM GOL GUMBAZ
MUGHAL
WAZIR KHAN'S
1634
TOMB OF
AURANGABAD
c.1679
TAJ MAHAL



SECTION IN PERSPECTIVE OF THE JAMI MASJID AT AHMEDABAD, GUJARAT. COMPLETED A.D. 1423.



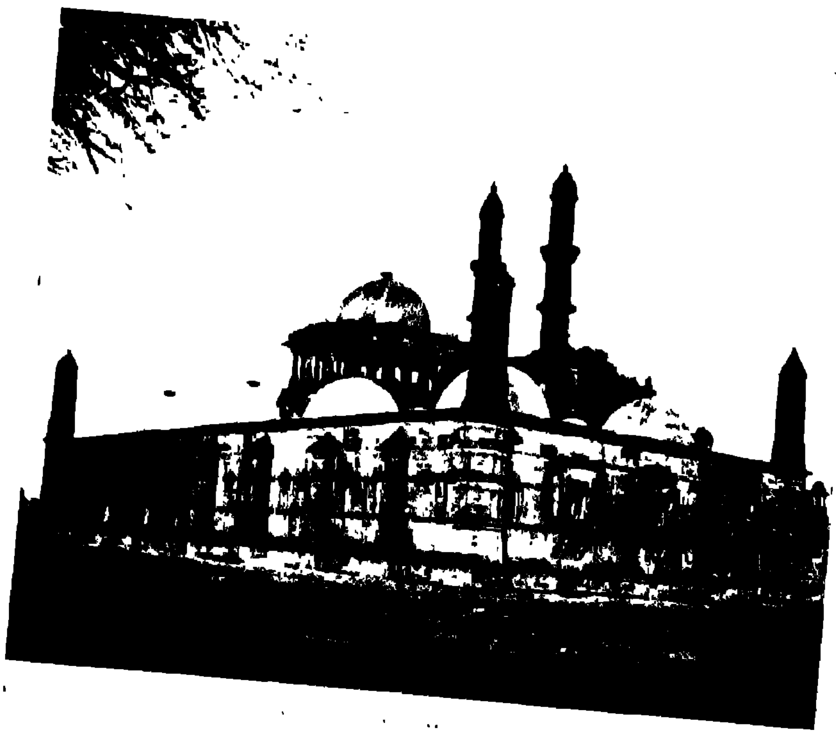
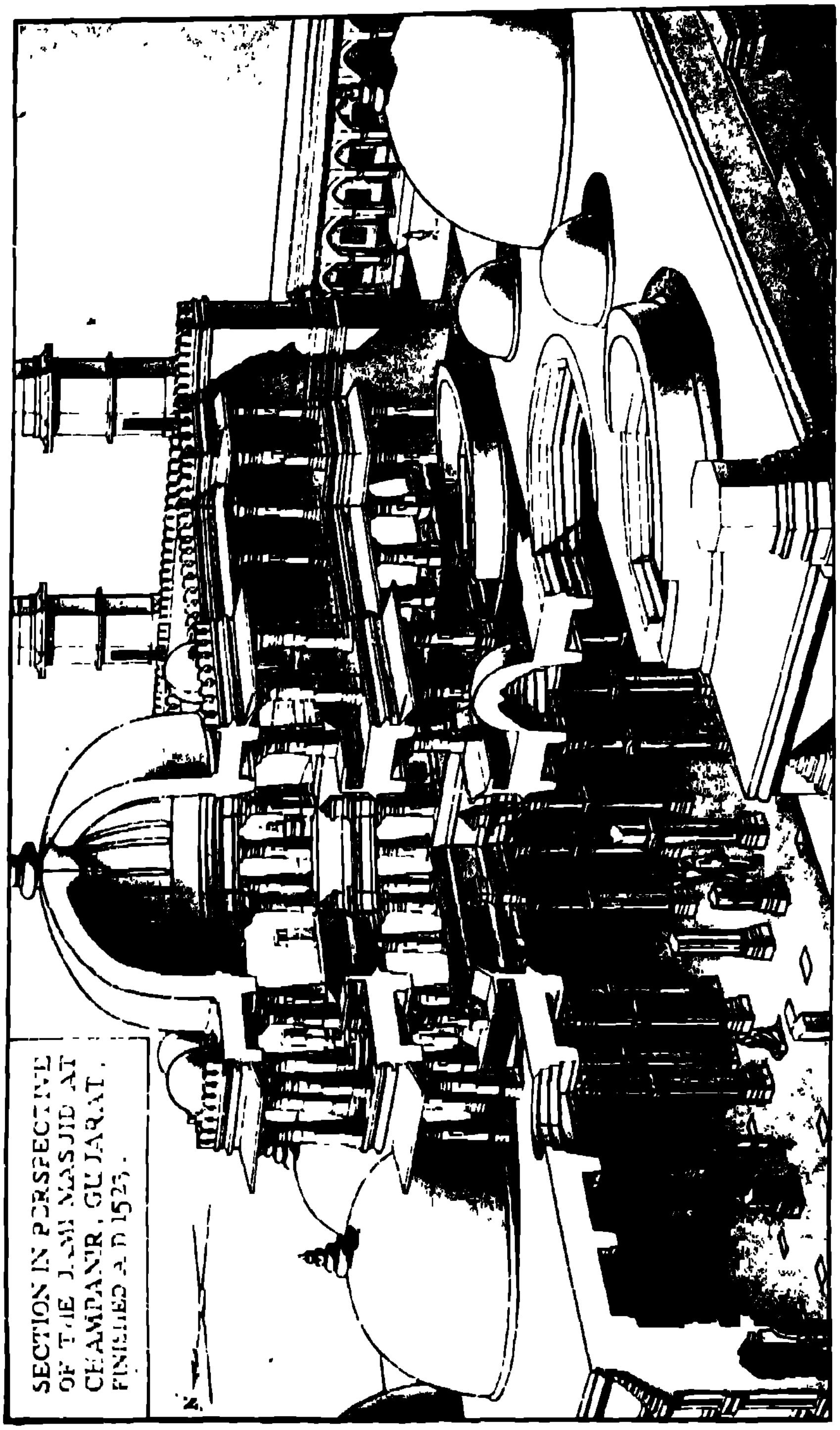




Fig. 1 [illegible]



Fig. 2 Champaner Jami Masjid Entrance to Courtyard [illegible]



SECTION IN PERSPECTIVE OF THE JAMI MASJID AT CHAMPANIR, GUJARAT, FINISHED A.D 1523.

...ohammedan rulers. These Bengali craftsmen ...killed in their art as the remains of the Pala and ...sculptures testify, and were the successors of ...amous Eastern School of sculpture of the ...ist-Hindu period of the ninth and tenth ...

...sum up, the Islamic architecture of Bengal is not a ... of building of a very impressive kind, although ...se to considerable heights in certain of the earlier ...mples as for instance in the Adina Mosque and the ...il Darwaza, but these two monuments were in a ...sure exceptional, symptomatic of passing phases of ...ssive ambition and self-exaltation. When the ...slem rulers had settled down to realities with less ...ated ideals and proceeded to build structures of ...re moderate proportions as shown in the third and ...urth phase of the style, their productions were more in ...cordance with the prevailing conditions. What they achieved may not have been a great art, but its constructive principles were sound, its appearances were inventive and original, and it was peculiarly suitable to the climate and to the purposes for which it was intended

Although the best examples of the style are confined almost entirely to Bengal it was of a sufficiently forceful nature to be carried still further east, so that it penetrated into the country of Assam Evidences of this appear at Dimapur in the Sibsagar District, as on the site of an early capital of the Kachari Rajas there is an entrance gateway, probably of the sixteenth century, which is identical with the mosque fronts of Gaur and Pandua. It has the central pointed archway, octagonal turrets at each end, and the characteristic curved cornice, all indicating that it was representative of a style of architecture which implanted itself wherever the Moslems were established [1]

[1] J. A. S. B., Vol 43, 1874. Archaeological Survey of India, Bengal Circle, 1902-3.

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Chapter IX

PROVINCIAL STYLE. THE MOSQUES OF JAUNPUR

(cir. A.D. 1360 to cir. 1480)

HAD not the Delhi Sultan, Sikandar Lodi, at the close of the fifteenth century shown his implacable enmity towards the last of the Sharqi kings of Jaunpur by ruthlessly destroying or mutilating the monuments of that dynasty, its buildings would have provided a provincial manifestation of Indo-Islamic architecture of more than ordinary interest. As it is, the five mosques that the Lodi rulers was prevailed upon to spare, illustrate in a very complete manner the aesthetic appearance and informative nature of the religious architecture, but, on the other hand, of the secular buildings, there remains no trace. Jaunpur was a large and important dependency of the Delhi empire, forming its eastern bulwark, and its governor was honoured by the Tughlaqs with the title of Malik-ush-Sharq, of "King of the East", afterwards to become known as the Sharqi (Eastern) dynasty of Jaunpur. The Sharqi kings had a brilliant and meteoric career lasting for less than a century, but it was a century of great architectural activity, and practically all the buildings that were produced during their rule are to be found in the capital city of the state. The city of Jaunpur stands on the river Gumti, thirty four miles north west of Benares, and was one of the strategic capitals which Firuz Shah Tughlaq, the Sultan of Delhi, established in various parts of his dominions in the middle of the fourteen century. Founded thus by one of the house of Tughlaq, and flourishing most of its time while that dynasty was in power, the marked Tughluqian character of the style is readily explained.

The course of Jaunpur's history corresponded in date approximately to the latter half of the fourteenth and the first half of the fifteenth centuries, each of these centuries denoting a phase in its architectural development. The fourteenth century may be regarded as a period of preparation, the building records of that time that have survived, although indicating the direction in which the art was moving, are of no special architectural significance. It was during the remaining period in the fifteenth century, after its rulers had thrown off their allegiance to Delhi, that the style was formed and its typical buildings were produced.

The remains of the structures at Jaunpur dating from the fourteenth century are few in number, consisting of the fort, now represented only by its eastern gateway, and a rather commonplace mosque within the fort, all built by Ibrahim Naib Barbak in 1376-77; about the same time the foundations of a congregational mosque were laid, afterwards to become the Atala Masjid, but owing to a variety of circumstances, its construction was delayed for over a generation. Not much information as to the state of the art can be derived from these projects, but another building, a few miles outside the city, and the earliest of the entire group, throws a little light on the subject. This is the masjid of Shaikh Barha at Zaffirabad, a village marking the site of an earlier Islamic settlement. Recorded to have been erected as far back as A.D. 1311, this mosque is an improvisation from materials stripped from Hindu temples within its vicinity. It is of an unusual type, consisting of a large square hypostyle hall of 65 feet side, its flat roof 20 feet in height being composed of stone beams supported by a forest of over sixty pillars, the entire conception, although solidly constructed, having a definitely crude appearance with little to attract the eye. Yet it is quite possible that the bulky nature of its frontal portion, some ten feet thick, contains the rudiments of what was afterwards to become the outstanding characteristic of the Jaunpur mosques, the pylon formation of their facades.

The beginning of the fifteenth century however brought Jaunpur's opportunity through two events, in the first place, taking advantage of Timur's capture of Delhi, the state assumed independence, and secondly, this position having been attained, it came under the rule of Shams-ud-din Ibrahim (1402-36), who proved himself one of the most enlightened sovereigns of his age. The imperial city of Delhi lay, for the time being, derelict, and for a brief period under Ibrahim's intelligent patronage, Jaunpur appears to have taken its place, the light of its ancient glory being deflected on to the Sharqi capital. Attracted by its cultured court, it was the resort of stages and literati driven from Delhi and elsewhere by the vicissitudes of the time. Especially was Jaunpur famed for the number and variety of its colleges, thus becoming a king of university town, being alluded to as the Shiraz, or leading seat of learning of India. Architecture and the arts were also encouraged, so that, in the course of a very short period it boasted of many fine buildings--palaces, mosques, tombs, and all the external attributions of an imperial capital. Prominent among these structures was the Atala Masjid, which Ibrahim caused to be erected in 1408 on the foundations prepared by Firuz Shah Tughlaq some thirty years before. The earliest building of his reign, no example could have been preserved which would illustrate more characteristically the cultured conditions that then prevailed. (Plate XXX.) For although neither large nor very highly finished in its detail, this mosque in the freshness and vigour of its style, is thoroughly expressive of the stimulating intellectual influences by which it was surrounded. Moreover, it furnished the model for all the mosques of Jaunpur, by none of which, in design, was it ever excelled.

The Atala Masjid takes its name from the fact that it was built on the site of the Hindu temple of Atala Devi, the materials of which, together with those of other temples in its vicinity, were utilized in its construction. The general arrangements of this mosque

according to convention, as it consists of a square courtyard of 177 feet diameter, and around are disposed its various parts, on the three sides are the cloisters and on the fourth side is the sanctuary. The cloisters are very spacious, being as much as 42 feet across, for they are five aisles deep besides rising up into two stories, two aisles of the lower story being formed into a range of cells with a pillared verandah facing the street, thus providing external accommodation for pilgrims or merchants, the entire mosque covering a square of 258 feet side. In the middle of each of these three sides, and interrupting the line of cloisters is a handsome structure forming a gateway, the two on the north and south being the most prominent as they are surmounted by domes. But the largest and by far the most striking part of the scheme is the sanctuary, occupying the whole width of the western side, and in the design of its facade the Jaunpur architects have combined artistic skill with remarkable originality. In the centre raises a lofty commanding feature shaped like a pylon with sloping sides recalling the propylons of some Egyptian temples, its height being 75 feet and its width at the base 55 feet. Within the pylon is a great arched recess eleven feet deep, and containing the entrances to the nave and also the arcaded window openings by which it is illuminated. This arched pylon, a most distinctive structure, becomes the main theme of the composition, being repeated to a smaller scale by similar pylons placed on either side of it, and it is again caught up by the three gateways in the cloisters, so that the whole effect is one of balance and rhythm, skilfully adjusted. Moreover its recesses and projections, its solids and voids, are so well disposed as to accentuate this rhythm by means of alternating passages of strong lights and deep shadows.

The interior of the building is equally well conceived, its sanctuary consisting of the usual central nave with pillared transepts on either side, the former a rectangular hall, 35 feet by 30 feet, and roofed high up by a single hemispherical dome. The decorative treatment of the nave consisted of spacing it vertically into three stages, each depending on an arrangement of arches or arcades for its effect. The lowest compartment has three mihrabs and a high pulpit approached by steps on its western face, while the arched openings to the transepts form its sides. Above this, the second stage is composed of eight decorated arches, four of which are squinches bridging across the angles thus changing it into an octagon. It is through screened openings within these arches that light is admitted to its upper part. The third or uppermost stage is converted by means of brackets in each corner into a sixteen sided story, each side containing an arch, so forming a kind of arcaded triforium to support the dome. This dome, fifty-seven feet high inside, its under surface elegantly ribbed, is constructed by means of circular courses of stone, the outer side being covered with a thick layer of cement to give it the simple spherical curve of its exterior. The transepts extending on each side of the nave are long pillared halls, the centre opening out into an octagonal bay, or side chapel, roofed by a smaller dome, while at the further end they become two storied, the upper compartment being surrounded by perforated stone screens and reserved for the zenana.

Many of the elements contained in the design of the Atala Masjid were derived almost directly from the architecture of the Tughlaqs at Delhi, for instance the recessed arch with its "fringe" of ornamentation, the shape of this arch and the sloping side of its supports, may all be seen in a more refined form in Mohammed Shah's tomb at Tughlaqabad. That somewhat illogical principle of the beam and brackets supporting the arches of the Jaunpur examples is also from the same source, while the plain square shafts of the pillars, and particularly the tapering turrets on the quoins of the western wall exterior, are copied from those on the buildings of Firuz Shah Tughlaq. There must therefore have been engaged in the production of the Atala mosque a number of workmen trained in the traditions of the imperial style at Delhi and brought from that capital for service under the Sharqi rulers. On the other hand the manner in which the elements comprising the scheme have been combined and adapted to form a distinctly original composition seems to indicate that the actual and final conception was due to the genius of a master builder possessing understanding and vision of a very highly trained order. There is inscriptional evidence to the effect that Hindu artisans were largely employed on the work, and these local guilds of masons, freed from the restraint of their age-old indigenous conventions, may have been mainly responsible for the inventive formation and fresh spirit of such a notable architectural synthesis.

A conspicuous feature of the Atala Masjid is the rear wall of the sanctuary, in the architectural treatment of which there is much that is worthy of study (Plate XXXII, Fig. 2). According to usage the *qibla* or "direction" of the prayer hall resolved itself into an expansive wall containing no openings of any consequence, a fact which presented additional difficulties to the mosque designer as may be seen in the exteriors of most buildings of its kind. In the Jaunpur example the great plane of this retaining wall was relieved by three boldly projection surfaces, one corresponding to each of the principal compartments of the interior, and thus coinciding with the three domes above. Each corner of these projections is emphasized by a tapering turret a larger replica being attached to the two main angles of the building itself, the whole arrangement providing a thoroughly workmanlike solution of a rather elusive problem. It is from this rear point of view of the mosque that the conjunction of the two main elements of the exterior, the dome and the facade pylon, and the incongruity that they present, are most instructively brought to notice, as well as the bare appearance of the rear aspect of the pylon itself. Whatever the position of the spectator, a building having any architectural pretensions should preserve certain structural proprieties of which a logical interrelation of its parts is most essential, and a glance at the dome of this mosque, overpowered, obscured, and almost enveloped by the plain back wall of the pylon shows that these

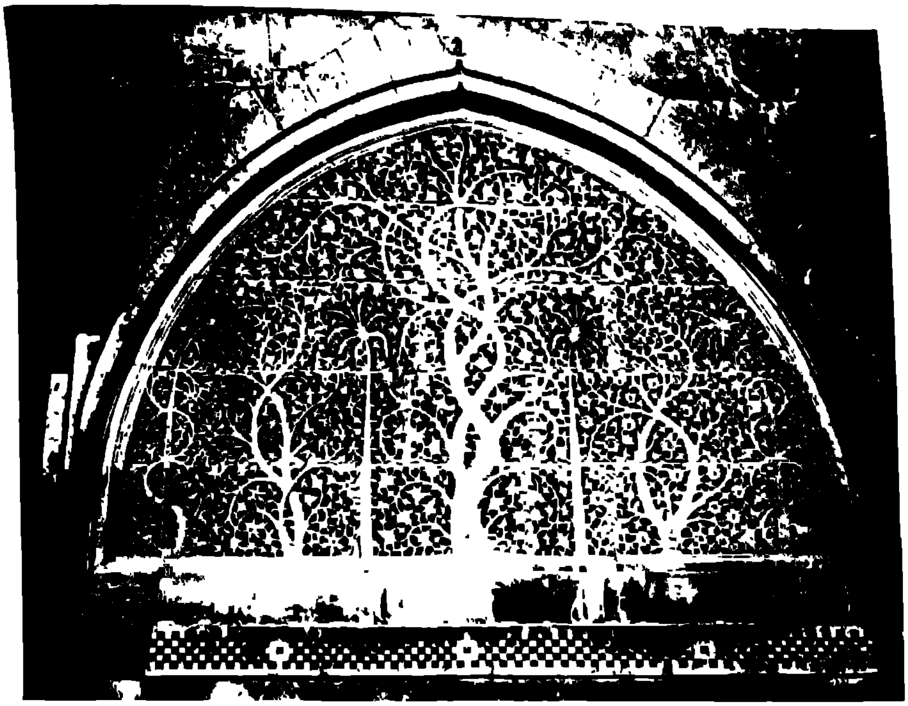
principles were not observed. Such, however, as already explained, is a defect, fundamental in all the mosques of this kind Yet seen from the side, and at a distance, the morning sun throws an exquisite mauve and grey shadow from the angular planes of the pylon on to the rounded surfaces of the dome, an effect however, more fortuitous than intentional

Nearly a generation appears to have passed after the building of the Atala Masjid, before other mosques at Jaunpur were produced, represented by two examples, the Khalis Mukhlis Masjid, and the Jhangiri Masjid, both erected about 1430. The former, built to the order of two Governors of the city, Maliks Khalis and Mukhlis, is a plain serviceable structure, its facade, domed hall, and transepts being devised on the same system as the Atala Masjid, with however but little ornament to relieve the stern simplicity of its design. As a contrast to this austere example, is the Jhangiri Masjid, built about the same time, which although but a fragment of the original fabric, in the richness of its treatment, when complete, must have been an architectural gem Only the central portion of the facade remains, but the fine screenlike appearance of this arched pylon has given the building its name of *Jhangiri*, or screen. From such a small portion of the structure not much can be deduced as to the architectural appearance of the whole, but judging from the fact that the entrance, instead of being arched, is formed into an arcade of three openings on the pillar, beam, and bracket principle, the influence of the indigenous system seems to have been persistent. It also conveys the impression that the builders were not so much concerned in its construction or the proportion of its parts, but were more interested in the plastic treatment of its surfaces, which is finer than that on any of the other Jaunpur examples. Were it not that this mosque was succeeded by others in which the initial power and vigour are still much in evidence, it might be presumed that the Jhangiri Masjid was an instance of that elegance without strength which foretells an approaching decline.

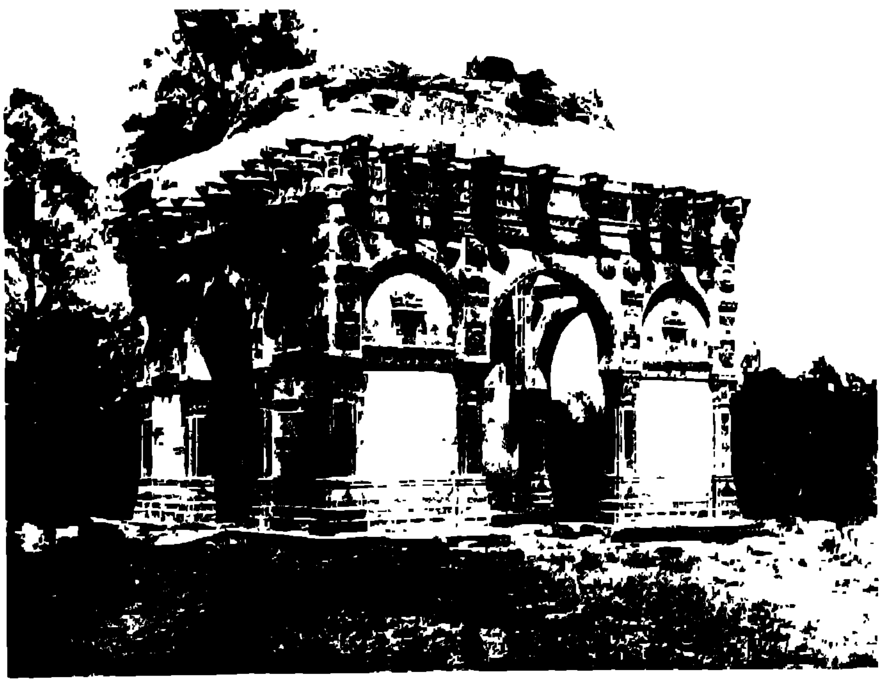
The next example, known as the Lal Darwaza Masjid (Red Door Mosque), built some twenty years later and therefore about A.D 1450, is a small mosque forming part of a scheme which included a palace since destroyed, planned and put into execution by Bibi Raja, the queen of Mahmud Shah (1436-58). It appears to have been a private chapel attached to the palace, which was approached by a distinctive "high gate painted with vermilion", hence its name. A simplified reproduction of the Atala Masjid, and about two thirds in size, the interior differs from its archetype in one respect, as the screened upper compartment for the zenana is placed in a central position adjoining the nave, and not relegated to the far end of the transepts. In this alteration one sees the influence of the royal lady who figured prominently in the history of the dynasty, and in her insistence on additional consideration for her sex. All the Jaunpur mosques, however, show that special attention was given to the religious needs of women, as galleries were always provided for their accommodation, the beautiful open-work screens by which they were surrounded being a feature of the style. (Plate XXXI, Fig. 1). The architect of the Lal Masjid is said to have been a Hindu named Kamau, the son of Visadru, but as the building shows no marked indigenous influence and is quite according to type, it is apparent that the other mosques were prepared under the same conditions. In design this mosque consists of a courtyard one hundred and thirty-two feet square, with the forms of its three gateways leading up to that of the pylon of the facade, but as owing to its smaller size the side pylons of the sanctuary were omitted, it does not possess the well-defined poise and balanced effect of the Atala Masjid.

Not long afterwards the largest and most ambitious of the Jaunpur mosques began to be erected, the Jami Masjid, the mean date of its construction being A.D. 1470 (Plates XXXI and XXXII) It owed its production to Husain Shah who came to the throne in A.D. 1458, but who was the last the Sharqi dynasty, for during his reign Jaunpur as an independent state came to an end, being absorbed into the kingdom of Delhi. It is therefore the final example of the style. The scheme of this mosque repeats in most respects, although on a larger scale, many of the essential features of the Atala Masjid, with however certain marked divergencies. Its general appearance is made impressive by the entire structure being raised on a terrace some 16 or 20 feet above its surroundings, so that its entrances are approached by steep but imposing flights of steps, a conception evidently inspired by some of Firuz Tughlaq's mosques of a similarly elevated type at Delhi. The courtyard is a square of 21 feet side, and the cloisters are two stories in height, but only two aisles in width, a contrast to the generous five aisle cloisters of the Atala Masjid. The three entrance halls, one in the middle of each side, are of equal proportions, each with a handsome dome, and, as was intended, they are a prelude to the great central pylon which soars high above everything at the western end of the quadrangle, being 85 feet high and 77 feet wide at its base. On each side of this dominating feature are the arcaded wings of the side-aisles, above which may be seen the roof of two large halls forming the transepts of the interior.

This interior consists of the square hall of the nave, thirty-eight feet in diameter, designed on much the same system as that of the Atala Masjid already described, but with a few alterations due to its larger size, such as the clerestory arcade being of the open variety in order to light the inside of its dome. On each side of the central hall connected by arched openings are the pillared side aisles, placed transversely to the long axis of the sanctuary, each containing a second story, the upper compartment, with its openings filled in with perforated stone screens, providing a private chapel for the ladies of the royal household. So far the scheme of this mosque deviates but little from those previously referred to, but in the treatment of the space beyond these side-aisles, the designers broke fresh ground and introduced an arrangement entirely different from that in any other building of its class. On each side they added a great vaulted hall corresponding to a

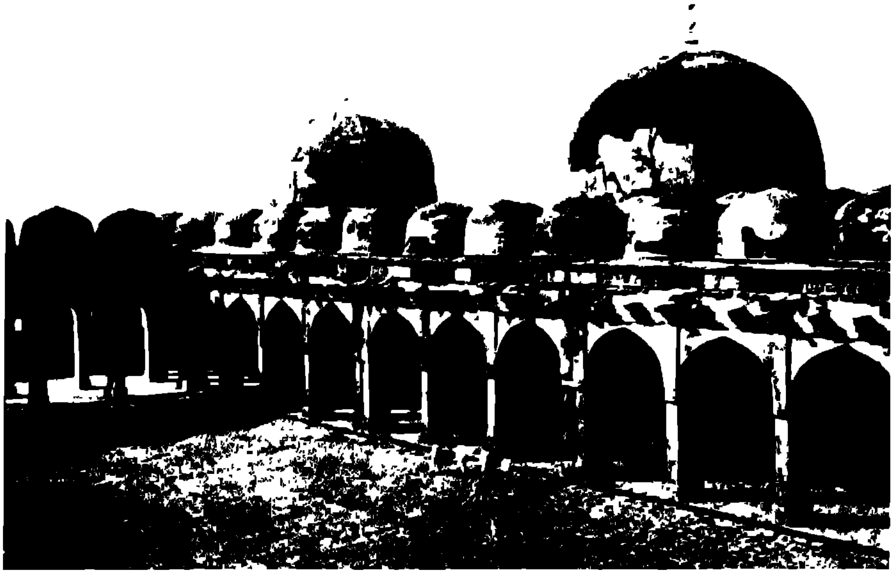


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XLII



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transept, each 50 feet long, 40 feet wide, and 45 feet high, its spacious interior unobstructed by any supports, but adequately lighted through the archways which open on to the courtyard, and with three mihrabs opposite them on the inner wall. What, however, in these compartments of the transept is unique, is the shape and construction of their roofs, which take the form of a wide pointed vault, the whole recalling in several of its aspects a Gothic college hall or refectory.

These transept halls of the Jaunpur Jami Masjid present a very interesting study. Unencumbered by pillars or support of any kind, an interior, provided with such a clear open space is rare in Indian architecture, and not common elsewhere. The only attempt at a similar construction in the country was the nave of the Adina Mosque at Pandua, in Bengal, built exactly a hundred years previously, but in this instance the vault, which was of brick, has fallen. In the Jaunpur example the roofs are intact, and in as good order as when first erected, much of which is due to the sound methods and scientific ingenuity employed in their construction.[1] To achieve their purpose the builders first threw across the forty feet space a framework of four pointed arches or ribs consisting of two transverse ribs at wide interval in the middle, and two wall-ribs or "formerets" at each end. This system produced a permanent centering, and on it were laid the infilling or "severies," formed of flat stones fitting on to the backs of the ribs. The result is a solid stone shell, built of large blocks and materially homogeneous. A vault of such a size and shape would tend to exert a considerable outward thrust, and therefore, to counteract it the exterior walls, from the haunches of the arched roof down to the foundations were made abnormally strong and solid, as they measure some ten feet in thickness. As a matter of proportion, the interior of these transept halls of the Jami Masjid would have been much improved had they been designed at least ten feet longer, i.e., sixty feet in length. And there is no reason why they should not have been so extended, as an elongation would have brought the end-walls into alignment with the exterior face of the cloisters, but the whole of this portion of the scheme as evidently in the nature of an innovation, a determined experiment, which, as far as it went, undoubtedly succeeded. One is filled with admiration at the simple and straightforward manner by which it was effected.

With the Jami Masjid the building art of Jaunpur came to an end and it may be useful to compare it with the first effort of the Sharqi dynasty, the Atala Masjid, which is undeniably the touchstone of the style. An interval of over sixty years separates the construction of the two buildings, so that they are the work of two different generations of artizans, yet the design of the Jami Masjid, the last to be produced, is proof that the architectural forms prescribed by the designers of the earlier example were steadfastly maintained. It is true there is a certain falling away from the high standard set by the Atala builders notably in the direction of architectural effect as for instance in the depth of the projections and recesses, particularly in the treatment of the great pylon, but taken as a whole, the Jami Masjid shows few real signs of decadence. Its imperfections, and they are mainly those of the front elevation, appear to be due to its designers attempting something rather beyond their capacity, they conceived the idea of the two grand vaulted halls forming the transepts, but failed to harmonize these satisfactorily with the other elements of the exterior. There is consequently an unfinished and somewhat disjointed appearance in this most important portion of the scheme. Bold, almost daring in their constructional originality, the difficulties of the workmen engaged in such an undertaking seem to have been those arising out of the aesthetic aspect of their project rather than the technical, and the fact of being unable to overcome them has prevented this mosque from being a work of architecture of more than ordinary merit.

In spite of the frequent appearance of the arch in the mosques of Jaunpur, always, be it noted, of the "depressed four-centred" or "Tudor" variety, with its "fringe" of spear-heads, now converted into a "fleur de lys," never omitted, the builders rarely seemed quite happy in its use. They were often uncertain of its curves the contours of which in some of the larger examples wavered weakly. As the style progressed the shape of this feature altered and improved, a fact noticeable in the great arch of the central pylon of the Jami Masjid, and also in the form of the vaulted roofs of the transept halls. But the masons were obviously more conversant with the application of the other and indigenous system of bridging a space, that of the beam and bracket, of which they made frequent use in all the buildings of their time.

It cannot be said that the workmanship of these mosques displays much refinement in its technique, most of it is bold and forceful almost to coarseness, its character is strong, purposeful, and sincere, but with few signs of that delicate elegance which is usually a feature of the previous temple architecture. The pillars of the mosques have square monolithic shafts with a moulded band across the middle, and a similar moulding above forms the capital, from which spring clusters of ponderous brackets. Some of these brackets would be graceful compositions, especially where one branches out of another, where they not so roughly executed. More carefully prepared are the traceried patterns in the window openings, arcades, and perforated screens, particularly of the Atala Masjid, many of which are intricate geometrical designs, but, again, not very finely chiselled. Yet all this unsophisticated handiwork seems to accord with these conceptions as a whole, as they are vigorous, incisive structures, possessing an ingenuousness and untutored assurance which cannot fail to impress.

The style of building that prevailed under the Sharqi rule, although shown to have been confined, almost entirely to the mosque of Jaunpur, at the same time

[1] Adina Mosque, built 1384, size 70 feet by 31 feet, and 50 feet high. Jaunpur Jami Masjid built 1464, size 50 feet by 40 feet and 45 feet high.

exercised its influence to a certain degree on the architectural productions of other places within the confines of the state, as may be seen in the Arhai Kanjura Masjid at Benares, and the Jami Masjids at the towns of Etawa and Kanauj. This influence is indicated by the appearance of the arched pylon in the centre of the facades of these mosques, a formation which, as already explained, is the keynote of the style and occurs in no other manifestation of Indo-Islamic architecture. It is not unlikely that so distinctive a feature as this arched pylon may have been self-originated, the wide experience of the builders imported from Delhi and the creative genius of the indigenous builds of craftsmen would form a combination quite equal to devising such a fine frontal effect. Yet on the other hand the pylon with its great archway may have a derivation of its own, and represent the last phase of a psychological fact closely connected with the progressive history of Islam. Its similarity to the gateway of a fortress seems something more than a coincidence. Mohammedanism was a militant movement and wherever its outposts were established often during its early years, its followers had to take the precautions of sheltering behind defensive walls. Fortresses thus became their rallying points, and the gates of these their vital parts. With this tradition latent in the background of their consciousness, eventually the fortified gateway became a symbol, its shape, but not its intention, finally passing imperceptably into their religious architecture to form the central feature of the mosque facade.

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Chapter X

PROVINCIAL STYLE: GUJARAT
FIRST AND SECOND PERIODS (1300 to 1458)

By far the largest and most important of the Provincial Styles was that of Gujarat, a region corresponding to what is now the northern portion of the old Bombay Presidency, with its capital at Ahmedabad towards the centre. There are two main reasons for the Indo-Islamic architecture of this part of the country being pre-eminent, one, owing to the conscious patronage and building ambitions of the Muslim dynasty who ruled it, and the other to the profound artistic traditions of the inhabitants. As regards the former it does not appear that the patronage thus extended was inspired by the particularly cultured character of the Ahmad Shahi Sultans, their court was not noted as a centre of learning, nor did any of the dynasty show personally any special intellectual interest in the arts. But these rulers were powerful potentates, desirous of surrounding themselves with material evidences of their might, and, in a spirit of emulation to impress others with their sumptuous architectural environment. It was therefore not so much their aesthetic in being that produced such structural achievements, but the egotism of a forceful and prosperous regime finding expression in magnificent monuments which, although not the highest ideal nevertheless was responsible for remarkable results

Any apparent deficiency in the quality of the royal patronage was however more than balanced by the second of these prime factors, the unrivalled aesthetic resources of the conquered territory. As elsewhere the Muslim rulers were almost entirely dependent on such local labour as was forthcoming to carry out any of their projects, architectural or otherwise, and accordingly, in view of their building aspirations they were fortunate in finding in the country of Gujarat some of the most accomplished artizans in the whole of India. For generations these guilds of craftsmen had been employed in building the Brahmanical and Jain temples which so profusely adorn this region, so that architecture and all the arts associated with it had become part of their racial consciousness To direct this genius to their own purposes was an easy matter for the Muslim overlords, and the facility with which the craftsmen adapted themselves and their art to the new conditions indicates that such a change presented no insuperable difficulties. Yet it is noteworthy that hitherto these indigenous artizans had invariably carried out their work strictly in accordance with the elaborate rules laid down for them in the *silpas* which constituted their architectural code When these hereditary temple builders were constrained by the Islamic authorities to change their orientation, and create structures of an entirely disparate order in the form of mosques and tombs, the ancient rules of their craft became at one stroke obsolete, and could no longer be their guide. Such an architectural subversion does not however appear to have affected to any appreciable extent the ordinary course of their work, or the quality of their craftsmanship. They began to produce the new type of building with just the same aesthetic and constructive sense as when every measurement was dictated to them and every detail bound by a precise religious formula. Judging from the freedom displayed in every aspect of this Indo-Islamic architecture, the Gujarat artizans found the release from such restraint not unwelcome, for in spite of being now under subjection they certainly expressed themselves even more abundantly than when independent yet enslaved by their own hieratic conventions.

In such circumstances it is not remarkable that of all, the provincial styles which emerged under Islamic rule that which flourished in Gujarat is the most indigenously India. Although in every intention strictly Islamic, the pattern of these buildings, or what may be called the undertones, are in the idiom of the country while as will be shown, in some of the finer examples considerable portions of their compositions are adaptations and even entire extracts from either Hindu or Jain temples. The position as a whole however differed but little from that which prevailed in most countries conquered by Islam except, in this instance the artizans were probably more resourceful, more fertile and more vitally artistic than elsewhere. A parallel to these conditions, but outside the world of Islam, is that which occurred in the development of the Gothic style at a slightly earlier date in England. Just as the Norman invaders were at the mercy of the English masons in the production of their cathedral architecture, so the Muslim overlords of Gujarat were in the hands of the local guilds of craftsmen in the preparation of their mosques and tombs. In each case however the ruling authorities in their respective spheres exercised almost unconsciously an intelligent controlling influence, through the application of which the world became enriched by monuments of exceptional beauty and vigour.

This Islamic style of architecture flourished in Gujarat for a period of some two hundred and fifty years from the time early in the fourteenth century when the Governors appointed by the Khalji Sultans of Delhi established themselves in the towns of the western seaboard, until the independent rule of the Ahmad Shahi dynasty declined, and the country in the last half of the sixteenth century was absorbed into the empire of the Mughuls. For convenience of study the style may be resolved into three periods. Beginning with the period of the fourteenth century, particularly during its earlier half, there was first the customary phase of demolition followed by one of reconversion. In the building of this stage much of the construction has the appearance of being formative and experimental some of the mosques have a certain charm and considerable dignity, but the

style is in a state of transition, it has not coalesced, and therefore has not yet attained a definite character. Of this phase the best example is the Jami Masjid of Cambay (cir. 1325), and the period may be designated the Early Period, or that of preparation. The second period prevailed during the first half of the fifteenth century, when the art was approaching its early consummation, although still displaying slight tentative qualities, but with increased assurance and directional authority. The finest example of this development, and also incidentally of the style as a whole, is the Jami Masjid at Ahmedabad, which, while preserving some of the freshness and ingenuousness of the previous manifestations, at the same time most nearly attains that of a perfect architectural achievement. This may be termed the Ahmad Shahi period. Finally there is the third period, which occupies the latter half of the fifteenth century, and was also carried into the sixteenth century, as its buildings owed much of their character to the power and patronage of the ruler Mahmud I "Begarha" (1458-1511), and those who succeeded him. It depicts the style in its most magnificent aspect, and may be referred to as the Begarha Period, the most typical example being the Jami Masjid at Champanir.

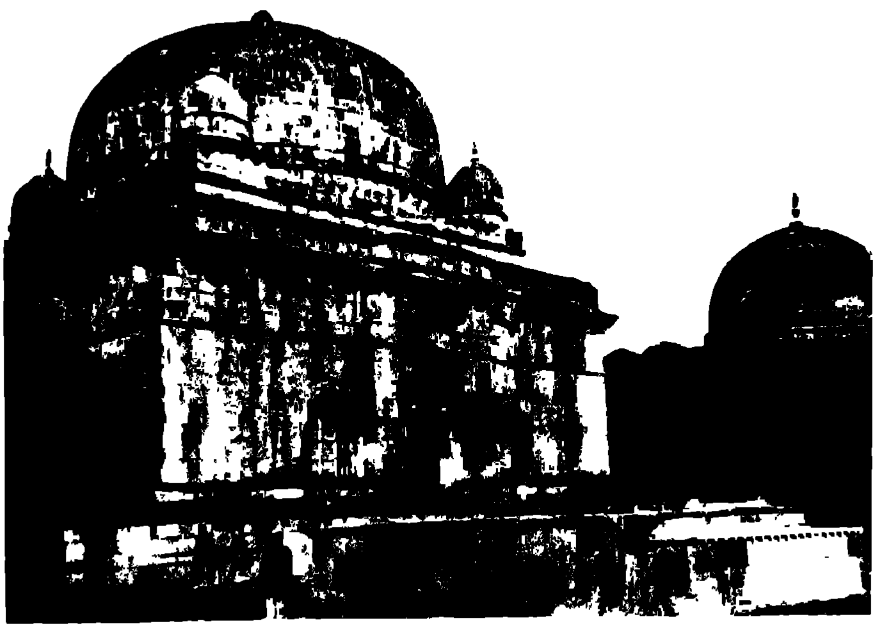
Of the Early Period, which was maintained from cir. 1300 to 1411, the principal records of this initial phase, when a form of structural conversion prevailed, may be seen at the town of Patan, now occupying the site of the ancient city of Anhilawada, which under the previous Hindu rule of the Solanki dynasty (tenth to the thirteenth century) was a place of considerable importance. From here the first Muslim governors, as soon as they assumed power, administered the country, and here are the architectural evidences indicating their somewhat indeterminate position at this time. Their building procedure was similar to that previously described in connection with other provincial styles, and is illustrated by the mausoleum of Sheikh Farid at Patan of about the year 1300, which is a Hindu temple, converted by means of a few adjustments and additions to serve as a Muslim tomb. Another example at Patan was the Adina or Jami Masjid, part of its structure consisting of over a thousand richly decorated pillars, torn from existing temples and assembled according to the mosque plan. Hastily put together this remarkable improvisation has almost completely disappeared, little more than the foundations remaining to prove its great dimensions. The number of temples of the twelfth and thirteenth centuries that were dismantled to provide materials for the mosques and tombs of the fourteenth century, indicates how rich the country was in Hindu and Jain architecture, for in spite of these ruthless inroads many fine examples of the earlier art of temple building have survived.

The succeeding phase of the Early Period, when original building began to take the place of extemporaneous compositions, is first represented by the Jami Masjid at Broach, a seaport town of Gujarat which very early came under Muslim rule, the mosque itself probably dating from the beginning of the fourteenth century. Although largely composed of temple materials, it is not an improvisation, as it was planned and constructed according to the conventional mosque design, consisting of a courtyard with gateways on three sides and a sanctuary at its western end. This sanctuary is of the open pillared variety, being merely an elaborated loggia or verandah, as distinct from those in which a wall of arches is carried across the front. Here it may be explained that the facades of the mosques in some of the provincial styles were of two kinds, one in which they present an open colonnade with the interior pillars exposed to view as in this case, and the other where the whole frontage is closed by a screen of arches. It will no doubt be at once realized that these two types are the result of the two ancient Islamic traditions, one in which the pillared verandah of the Prophet's house was perpetuated, and the other, at a slightly later date when the Caliph Oshman conceived the idea of building a screen across the mosque front at Medina to ensure privacy (Chapter II). As in these provincial developments it was a matter of personal choice whether the mosque should be of the open or closed variety, both forms of facade were used more or less impartially.

In the example at Broach the pillars of this open facade are so arranged as to divide the interior into three compartments, and these appear to have been three temple *mandapas* or pillared halls, removed in pieces to be re-assembled and re-erected in their present position. All the forty-eight pillars, which are of the bracket pattern and elaborately carved, are clearly acquisitions from other buildings but the substantially built walls enclosing the sanctuary have been constructed of stone cut and shaped for this purpose only, and are therefore the earliest examples of original masonry in this style. In connection with these early Moslem buildings which are improvised from Hindu temples, it has been remarked that as a rule the pillars of the mosques are Hindu, while the walls are Mohammedan. This is correct, but only to a certain degree. For although it was found possible to utilize the pillars in exactly the form in which they were originally executed, the change only being one of adjustment and redistribution, it was a different matter in dealing with the walls. The latter are original as far as their construction is concerned, yet nevertheless the masonry was often composed of stones from the temples, but recut or otherwise re-conditioned in order to fit in with the scheme of the building to which they were being transferred.

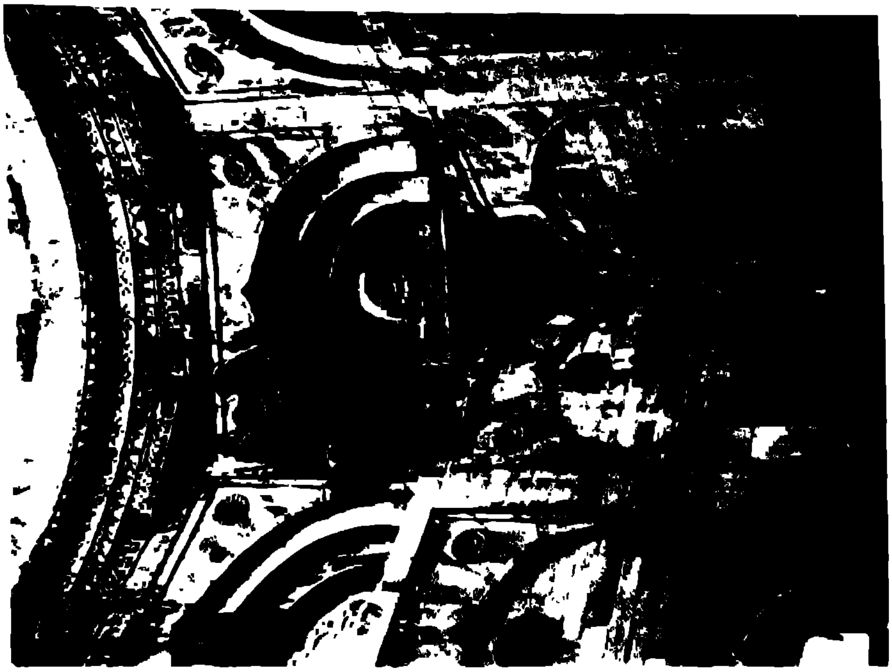
Such are the walls of the mosque at Broach, which are of original construction, but formed out of temple materials. On the interior of the western wall are three mihrabs, and a series of arched windows filled with stone tracery, all Islamic in purpose, but designed in an entirely indigenous manner. This specially applies to the mihrabs, which are copies of niches common in the temple architecture, but with the Islamic pointed arch introduced under the lintel, and all the didactic symbolism associated with the Hindu or Jain religion omitted, so as to give place to the abstract forms permitted by the Faith. The roof of the sanctuary consists of an arrangement of beams supporting three large

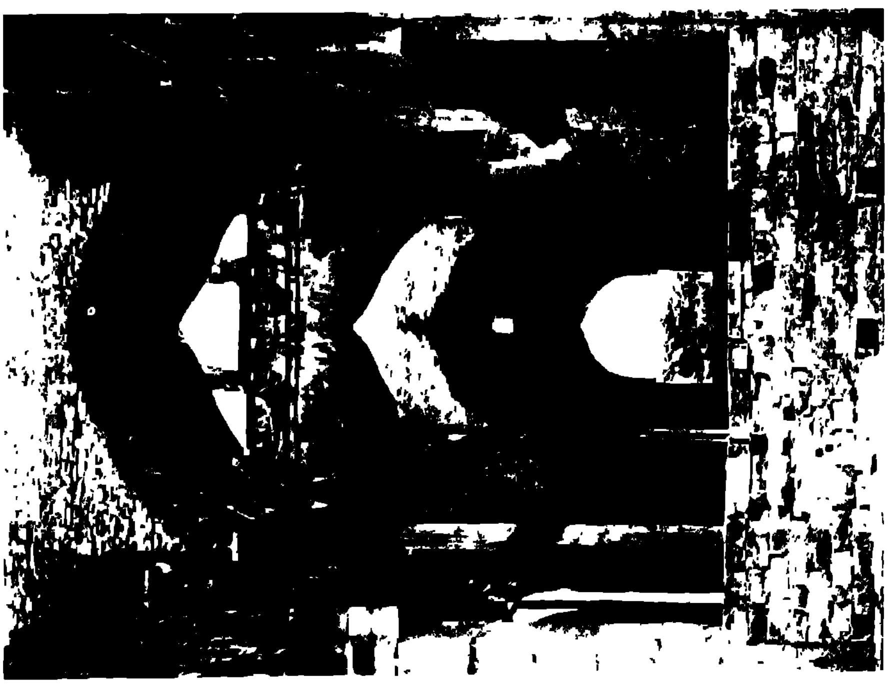




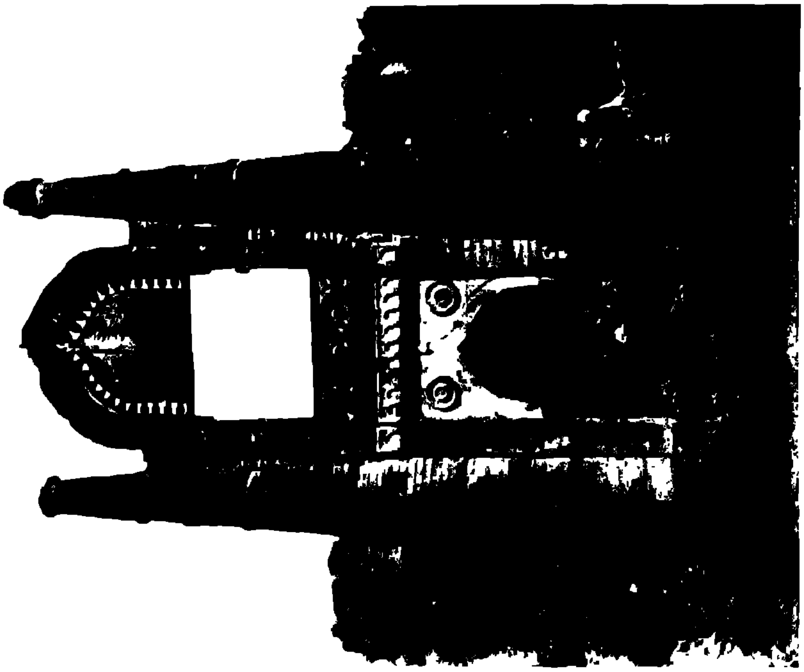


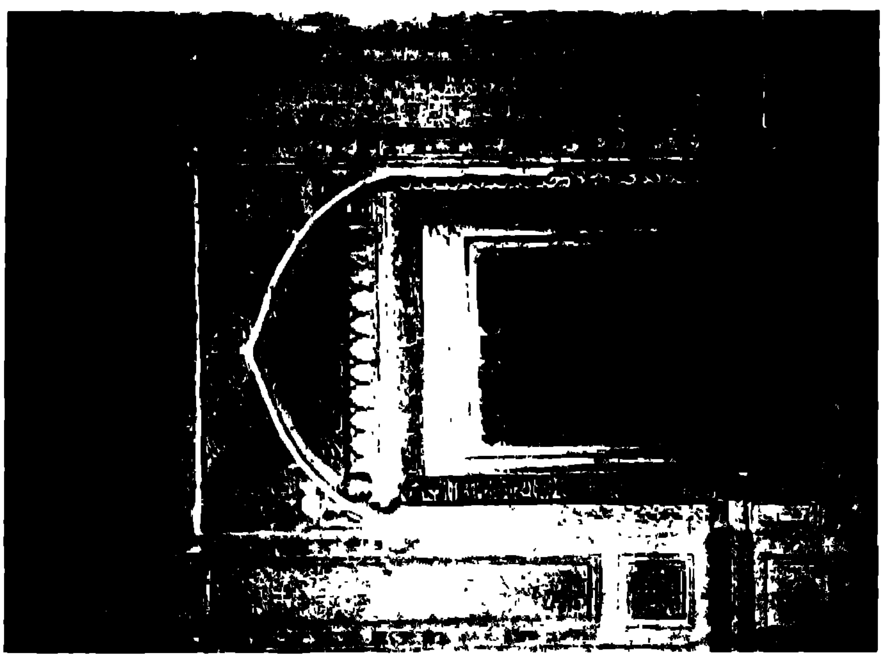






XLVI





domes and ten smaller ones, while the ceilings are elaborately decorated with cusped and other geometrical patterns, which had previously adorned some temple roof. This particular treatment of the square sunk coffered ceilings persisted throughout the style, as it was very effective and the designs being usually of a conventional order were not contrary to the tenets of Islam. From the style and formation of the Jami Masjid at Broach it is clear that except for a certain amount of direction and supervision given by Muslim overseers, the actual production was the handiwork of a number of local artisans who had most probably never before seen a mosque or any structure of this description.

Some twenty-five years later the Muslim rule in Gujarat appears to have been administered from the ancient seaport town of Cambay, and about the year 1325 a Jami Masjid was erected there. (Plate XXXIII, Fig 1). Judging by the appearance of this mosque it is not improbable that the local guilds of indigenous builders had been reinforced by a group of artisans recruited from Delhi, accustomed to working in the architectural mode as practised in the Moslem capital. Proof of this may be seen in the sanctuary of the mosque, which is not a simple open structure as in the previous example at Broach, but it has an enclosed facade with arches, after the manner of the Qutb mosque at Delhi, and the Arhai din ka Jhompra at Ajmer Moreover, the shape and position of these arches, the technical character of the masonry consisting of alternate broad and narrow courses, and the architectural treatment of the building as a whole, proclaim that its creators were not only trained in the Delhi tradition, but also in one of its distinctive styles. For in the Cambay mosque we see the style of the Khaljis, of Ala-ud-din Mohammed (1296-1316), and specially of that building at Delhi known as the Jama't Khana at the *dargah* of Nizamud-din, the facade of which bears a strong family likeness to the Gujarat example On the other hand in the arrangement inside the archways of the facade at Cambay, something has been borrowed from the Ajmer type of mosque, as shown by the pillars just within the central archway. These pillars at Cambay have been enriched by an engrailed arch of temple extraction, a motif which, it should be noted, was afterwards to figure so prominently as the graceful flying arch within the central openings of the later mosque facades of Gujarat In addition, therefore, to the fine proportions and dignified appearance of the Cambay Jami Masjid, its simple intelligible design provided the master key to the mosque architecture of Gujarat ; it opens to view not only the circumstances which led up to this particular form of structure, but also what it took and what it gave, in a word it reveals much that was subsequently transformed into the distinction of an organized style

Of almost the same character as the preceding but a little later in date, having been built in A.D. 1333, is the Masjid of Hilal Khan Qazi at Dholka It is a smaller and even simpler structure but with a notable innovation to the facade in the shape of a pair of tall ornamental turrets, one on each side of the central archway. In design these turrets are indigenous, with no definite traces of Islamic influence, but they are apparently an attempt to produce something corresponding to a minaret, without however any exact knowledge as to what this was like, or for what purpose it was intended. Their significance lies in the fact that they provide an early indication of that demand for a minaret, a feature which afterwards became an outstanding element in the Gujarat mosque design. Another mosque at Dholka is that known as the Tak, or Tanka Masjid bearing the date 1361, and is of the open variety, its sanctuary consisting of pillars, over a hundred in number, of a singularly rich type, and its decoration is of the same elaborate order, but all of purely Hindu origin. Except that it carries on the style for another stage, and shows that the temple attributions still persisted, this mosque is architecturally unimportant. It invites attention, however, because it is one of the last buildings of the kind to be produced in Gujarat in the Fourteenth century, and thus marks a definite pause in the progress of the building art in these parts. For at this time the country, together with the other Muslim dependencies, was experiencing notable political reactions owing to the increasing instability of the central power at Delhi The provincial governors whose personal patronage provided the chief source of architectural inspiration, were principally concerned in maintaining their own individual positions, and were too pre-occupied in this to give much encouragement to the art of building. In reality, therefore, only the first half of the fifteenth century was the period of preparation for these developments, as on account of the state of uncertainty that then existed an interval of inaction ensued before conditions were again favourable for a further advance. These conditions were fulfilled in the early years of the century, when Gujarat came under the rule of Ahmed Shah (1411-42), and its complete independence was established.

The Second Period into which the provincial style of Gujarat has been resolved, and which flourished during the first half of the fifteenth century owed its remarkable development to the forceful personality of Ahmad Shah I. This ruler began his long and prosperous reign by founding, in 1411, the capital city of his dominions, naming it after himself, Ahmedabad, and with its construction he also inaugurated an era of unparalleled architectural activity. For, stimulated by his zeal for building projects on a large scale, the officials of the court, and other eminent persons, also undertook the production of mosques, tombs, and similar structures within the precincts of the capital, so that few cities can boast of more or finer examples of monumental architecture than the capital seat of the Ahmad Shahi dynasty Upwards of fifty mosques large and small, irrespective of tombs are to be counted within its walls, the whole forming a rich exposition of Indo-Islamic art. Ahmedabad stands on the left bank of the Sabarmati river, and the citadel with its palace, as was the custom occupied a prominent position within a rectangular enclosure on the river front. Away from the citadel and towards the centre of the city itself, Ahmad Shah began the great Jami Masjid, connecting this mosque by means of

a wide thoroughfare thus creating a grand processional route, issuing from the main gate of his own fortified palace. Had the orientation of the mosque permitted, this "King's Way" would have centred on its principal portal, but that entrance having to be on the east, necessitated the road being aligned so as to pass on its northern side. From this point the scheme was extended by an area in front of the mosque being made into an enclosure to contain his own royal mausoleum while beyond, another court was prepared for the "Tombs of the Queen," the whole forming an imperial necropolis conjoined to this sacred structure. Astride the "King's Way," a stately triumphal arch was erected, the *Tin Darwaza* or "*Triple Gateway*," so disposed as to constitute the main entrance to the outer courtyard or Royal Square of the citadel, and from this central elevation the king enthroned, viewed on a terrace in front, the pomp and pageantry of his court. It will be seen that the entire conception was an effort at town-planning of a highly spectacular order, one of its objects being to produce an appropriate architectural environment to the imperial ceremonials.

Chief among the buildings erected in Ahmedabad during the early part of its founder's reign were four mosques, each illustrating a phase in the development of the style. These are (1) Ahmad Shah's mosque within the citadel (2) the mosque of Haibat Khan, (3) the mosque of Sayyid Alam, and (4) the Jami Masjid, all of which were completed within the first quarter of the fifteenth century. A beginning was made with Ahmad Shah's mosque in the citadel followed very shortly afterwards by that of Haibat Khan. The former is in the same tradition as the Jami Masjid of Cambay, the old threads of the building art being picked up again after an interval of some seventy-five years. As would be expected in view of this intermission, a slight advance on the earlier structure is observable as shown in the treatment of the buttresses on each side of the central archway, and the turrets above, the latter now dismantled. In this mosque under Ahmad Shah's enthusiastic incentive, it is possible to see the building art again coming to life. Smaller, but of the same type is the masjid of Haibat Khan, except that on its front rise a pair of tapering turrets which, together with a series of the nine prominent rounded bastions on the exterior of its western wall, suggest the influence of Firuz Tughlaq's style at Delhi of the last half of the previous century. What makes the turrets of this mosque of some significance is that they mark a further step in the formation and position of that characteristic feature the minaret, to attain which the builders were evidently striving. It is however in the third of these examples, the masjid of Sayyid Alam, stated to have been built in 1412, that the Ahmad Shahi style of mosque design is actually beginning to assume its final form, and it seems not improbable that this structure was in some respects the experimental model for the great Jami Masjid begun shortly afterwards. The Sayyid Alam mosque, in common with others in Ahmedabad, has lost its minarets, but the bases of these remain, to indicate their character and position on the facade, while the facade itself contains several elements such as the porticos on the wings, the projecting cornices, the ornamental brackets, together with a variety of decorative details, which in their form and arrangement anticipate those better composed and more skilfully apportioned in the Jami Masjid. The same applies to the interior of the Sayyid Alam mosque, for the appearance of the nave has been improved by an additional intermediate story, or embryo triforium, and there are other features all in a nascent stage, awaiting a master mind to bring them to maturity and integration.

The Jami Masjid of Ahmedabad which was finished in A.D. 1423 is generally considered the high water mark of mosque design in western India, if not in the entire country. (Plates XXXIV and XXXVII). It represents a definitely logical development from the earlier structures just described, some of which, as already shown, bear evidences of being exploratory and inventive, others tentative and not quite sure of themselves but one and all making their contribution of parts to the whole. At this particular juncture, as proved by this fine monument, the building art takes a decisive step forward, it rises to a higher plane, from the previous stage of hesitation and experiment to something approaching a complete and perfect realization of the ideal. Yet although conveying an impression of finality, this mosque even in its apparent perfection, represents a living, growing, and expectant style, a fact to which the subsequent examples amply testify. It can only be presumed that the occasion was one of those rare psychological moments destined to produce an architectural genius of phenomenal faculties and powers, so that his work developed into something more than an orderly pile of moulded masonry, and became a thing of the spirit. For this building speaks of that "silent flowering in stone of the souls of men, whose ways of life and thought had flowed into the things made by their hands."

The architectural effect of this mosque is concentrated in the sanctuary, especially on its facade, although the flagged courtyard in front measuring 255 feet by 220 feet, by its broad and simple spaciousness is a means of emphasizing the richness of its structural formation. In his conception of the front elevation of this sanctuary the architect has combined the two different facade conventions, the screen of arches on the one hand and the pillared portico on the other, placing the former in the centre with the latter on the wings. It is an arrangement which had been already attempted with some degree of success in the Sayyid Alam facade, but the designer of the Jami Masjid skilfully brought it into a closer relationship with the whole. By means of the juxtaposition of the screen with the columns he achieved at once a subtle contrast between the volume and strength of the wall surface, and the depth and airy lightness of the colonnade. As a composition of solids and voids this facade is superb, with its three main openings well balanced and in excellent proportion, the large central archway accentuated and supported by the richly moulded buttresses of the minarets, the upper parts of which have now, alas, disappeared. The graceful curves of these arches outlined against the darker

interior, the alternation and interplay of light and shade among its frontal columns, and, finally, that engrailed arch springing so lightly and fancifully from its slender shafts amidst the half tones, moves one in much the same manner and measure as does the grey arcaded west front of a Gothic cathedral. (Plate XXXIV, Fig. 2)

The interior of this mosque sanctuary takes the form of a hypostyle hall 210 feet long and 95 feet deep, and consists of some three hundred tall slender pillars, so closely set, that the average inter-columniation is less than five feet, thus simulating a thick grove of silver pine trunks (Plate XXXV, Fig 1.) The arrangements of these pillars however has been carefully planned as they are symmetrically disposed into a series of square bays, fifteen in number, connected by columned interspaces and each covered by a dome. The central compartment of nave rises up into three stories, the side aisles being in two stories, while the remainder of the interior is one story only in height, save where there is a hanging gallery, or mezzanine, in the north transept for the zenana. Much of the varied effect of the interior is obtained by the structural configuration of the three storied nave in the centre in conjunction with its transepts the latter being designed on the same principle as the former, the only difference being in their relative height The nave is composed of two pillared galleries one above the other, the whole structure being supported on the tall columns of the hall below These galleries enclose a wide central shaft for what may be termed a "rotunda," except that it is not circular in plan, as the lower gallery is square and the upper octagonal. This "rotunda" is carried up through both stories and is covered by a dome. At each stage is a platform with a balcony overlooking the "rotunda" and provided with a sloping backed seat, similar to the temple *asana*. Around the exterior of these galleries are pillared verandahs or loggias, and in the arcades between the pillars are perforated stone screens. It is through these screens that the galleries are illuminated, as they are so arranged that no direct light of any kind can penetrate, for it is first deflected then reflected, before being permitted to diffuse itself throughout the building.

That large-scale borrowing from the indigenous style of temple architecture appears in these mosque designs has been already shown, but in the case of the nave and aisles of the Jami Masjid of Ahmedabad, the contribution is undoubtedly a most substantial one. In theory it is not far removed from the scheme of constructing a temple building and introducing it into the mosque sanctuary as a central compartment. To adjust this extraneous structure so that it conforms to its new position and purpose, certain alterations to the mandapa, or pillared hall of the temple design had to be effected, such as the addition of upper stories, and, most conspicuous of all, the innovation of the "rotunda" in the centre, although as will be shown later a form of public water-well, planned on the same principle, figures in the design of the *wavs*, or step-wells common in Western India. As to the additional stories or upper range of pillared pavilions there had been a movement for some time past, in several parts of the country, for greater height combined with more light in all forms of the building art, as seen in certain examples of the earlier temple architecture. In the tenth century temples of Sas Bahu at Gwalior something of the kind had been attempted, while in the remains of the Rudra Mala temple at Siddhapur of the twelfth century, there are evidences of the same aim. Later the large Jain temple at Sadri, some one hundred and sixty miles north-east of Ahmedabad, and constructed before A D 1450 shows in its pillared upper compartments that the indigenous architects were striving after the same effect. But it was in the interior conception of the Ahmedabad Jami Masjid, that the problem of increased height and better illumination, together with an upward trend by means of vertical lines, was most artistically solved, the structural principles employed being illustrated in Plate XXXVII

In addition to the four mosques just described, there is another important building of this period, but of a secular order, and of which mention has been already made. This is the triumphal archway forming the central feature of Ahmad Shah's processional route, connecting his palace with the Jami Masjid, and known as the Tin Darwaza or "Triple Gateway" Now encroached on by small shops, and the fine thoroughfare of the "Kings Way" converted into a rather commonplace bazar, this archway has lost much of its regal significance, but even with its original setting obliterated, and amidst its somewhat mean surroundings, such an environment only serves to emphasize its rare architectural dignity. Through the associations of ideas, a triumphal archway, recalls the Roman conception of this type of monument, and as the Ahmedabad example contains three openings, resembling in this particular the triple archways of Septimus Severus and of Constantine of the third and fourth centuries respectively, there is at least this feature in common. The Tin Darwaza is however barely 37 feet in height as compared with that of Semptimus Severus which is 68 feet, but in most of its other dimensions it exceeds the Roman production, as it is 80 feet wide and 45 feet deep. A fault in its design may be felt in the relative proportions of its three archways, as while all these are of equal height, those at the sides are not much narrower than that in the centre, a great contrast between them might have produced a more rhythmic result. The chief attractions of this structure as a whole are the bold yet graceful shapes of its arches, the skilful arrangement of its parapet relieved by the three elegant oriel windows on brackets, and the form and rich carving of the buttresses projecting from the front of each pier But it owes much of its refined aesthetic appearance to the contours of its arches, there being few pointed arches throughout the whole range of Indian architecture equal to those in the buildings of Gujarat, and in the Tin Darwaza these are seen at their best. (Plate XXXIII, Fig 2.)

During the interval of sixteen years following the death of Ahmad Shah in 1442 the throne of Gujarat was occupied by two rulers, Mohammed Shah (1442-51), and Qutb-ud-din (1451-58), under whose patronage

the character of the architectural style was adequately maintained. While the former was in power, the tomb of his father Ahmed Shah was completed in the enclosure already reserved for it, at the front of the eastern entrance to the Jami Masjid and it is fitting that as in life this ruler was responsible for the noble conception of this mosque, so in death he lies in close proximity to its gate. This mausoleum is a square structure with porticos projected from the middle of each side, that on the south forming the entrance Within each corner of this outer formation is a small square chamber, and between these, filling up the centre of each face are columned courts or enclosed verandahs, the whole arrangement comprising a kind of aisle, or cloister surrounding the tomb chamber within. A large dome covers this central chamber, and smaller domes surmount those in the corners, while between all the pillars are perforated screens in squared patterns. There is nothing specially noteworthy in the architectural effect of this building, but as a tomb it is of importance, as it is one of the first of this particular kind to be erected in Gujarat, and in some respects it furnished the model for those that followed.

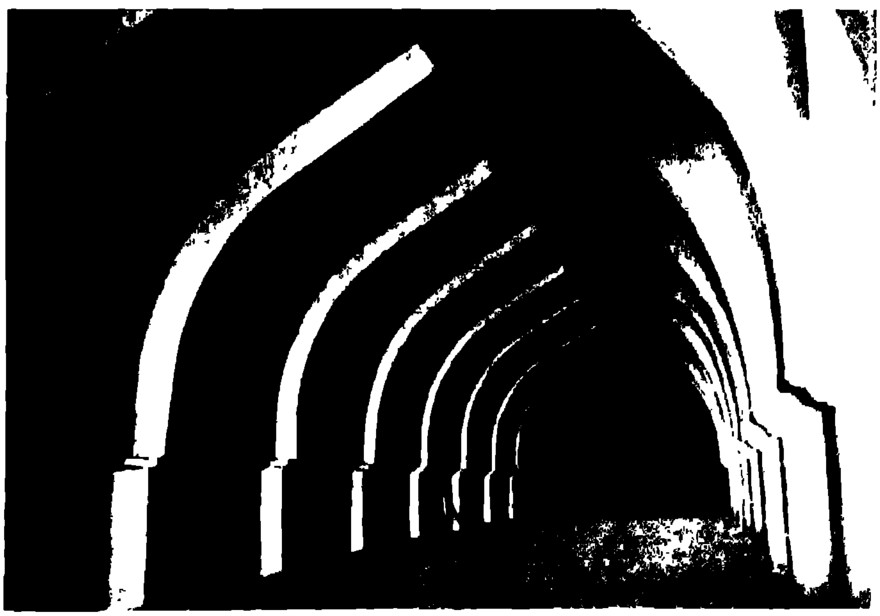
Beyond the king's tomb and indicating the limit of the grand architectural scheme devised by Ahmed Shah, is the enclosure containing the Tombs of the Queens, or Rani-Ka-Hujra, designed and executed in much the same style, as his own mausoleum, and of about the same date. The *Hujra*, so named after the "Chamber" in which the Prophet died and was buried, is a square open enclosure of 120 feet diameter, composed of a substantial arcaded screen with pillared cloisters carried along both its inner and outer sides; within the open court thus formed is a platform on which stand the marble cenotaphs, elaborately carved and also inlaid with choice metal and chaste mother of pearl. In the manner in which the whole of this conception is treated, there is no little sentimental significance. Privacy is delicately suggested by the encircling traceried arcade, and feminism emphasizes the fragile loveliness of its openwork panels, while the whole scheme is one of conspicuous refinement.

Mohammed Shah's reign is notable for the beginning of a project which afterwards developed into an architectural complex of considerable importance At Sarkhej, some six miles south-west of Ahmedabad, there settled and died in 1446, a famous recluse known as Shaikh Ahmed Khattri. To his memory, Mohammed Shah erected on this site two monuments consisting of a mausoleum and a memorial mosque, both so large and sumptuous that the whole conception could not be completed during his lifetime, and it was accordingly finished by his successor in 1451. Sanctified by these structures, Sarkhej became in the course of time a place of retreat for the Gujarat rulers, as well as an imperial necropolis, and so in addition to the original tombs there arose palaces, gardens, pavilions, gateways, a large artificial lake, besides other mausoleums, all on the same grand scale and of a high architectural order Beginning with the inaugural buildings erected to the memory of Shaikh Ahmed, and taking the mosque first, the architectural effect of this vast composition was obtained by the massing of numerous gracefully shaped pillars, which, marshalling themselves into groups of unending variety, present vistas from every angle. There is no attempt at height or anything approaching a formal facade, and it is remarkable in view of these apparent limitations, that the result is so convincing. The great size of this mosque may be judged by its exterior dimensions, which are 255 feet by 157 feet, out of which the hypostyle hall of the sanctuary occupies 70 feet. As a contrast to the open character of the mosque the tomb is an enclosed building, contained within a long range of arcades fitted with perforated screens. The interior however also resembles a hypostyle hall, as it is planned in the form of pillared cloisters, four aisles, deep, and surrounding the central tomb chamber. This tomb is 104 feet square, the largest of its kind in Gujarat, while the central chamber is a domed hall of 36 feet side. As usual, the latter is enclosed by a series of traceried screens, but in this instance, in place of perforated marble, the panels contain a fretwork of brass, cut and chased into a bewildering diversity of elegant patterns.

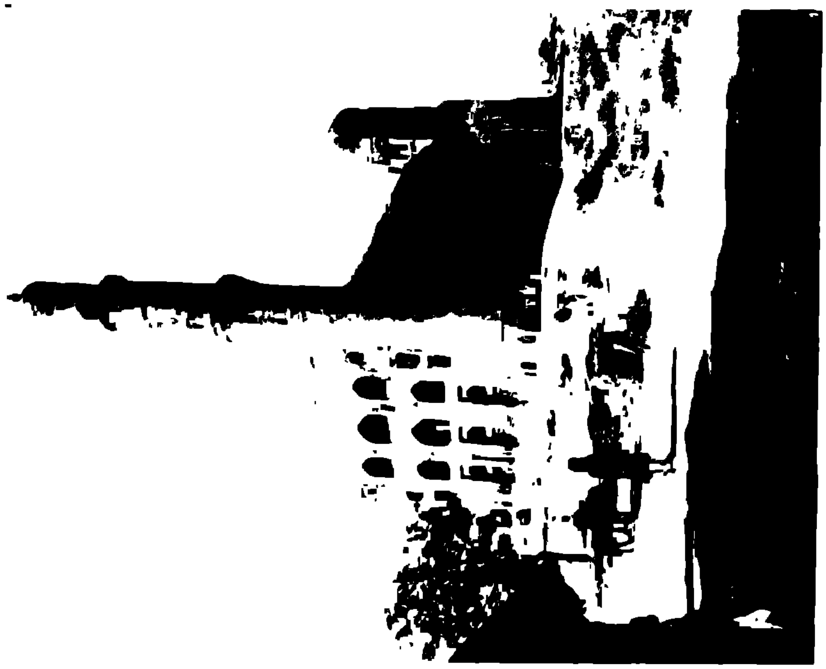
Qutb-ud-din's short reign of seven years (1451-58) produced several buildings, only two of which however are associated with this ruler personally. One of these is his own mosque named after him, and of no outstanding character, while the other is a mosque and tomb in the suburb of Rajapur, erected in memory of his queen, Sayyid Buddha bin Sayyid Yaqut. The two latter buildings combined form a *rauza*, a conception of considerable size and dated 1454, the mosque being interesting, as in the facade is an attractive innovation, in the shape of a triple arched formation, introduced in place of the customary open pillars in the wings, but except for this departure, it tends to be a heavy and uninspiring structure. In addition to these royal projects, however, there are two monuments, erected about the same time, apparently to the order of court officials, which are so different in design and technique from any other buildings of their period, as to suggest some distant external influence. These two buildings are the tomb of Darya Khan in Ahmedabad, and the mosque of Alif Khan at Dholka, a town already referred to as containing early examples of the style. Both the tomb and the mosque, although situated in places a considerable distance apart, are evidently not only contemporaneous, but also the work of the same hand, the mosque bearing the date of 1453. Instead of being built of stone, as are all the other monuments in Gujarat, they are composed entirely of brick, and in view of this method of construction, no beams of pillars figure in their design, their place being taken by arches and solid brick piers. From the character of the architecture and the structural process employed, it seems fairly evident that these two buildings are examples of a foreign style, which at this time found its way into the country of Gujarat.

The identification of this particular styles has not been definitely established, but it was probably a provincial form of the architecture of Southern Persia, with





XLVIII





which country the coastal towns of western India had close commercial relations. A group of workmen from those parts, bringing with them the building practice of their native land, had evidently made their way first to Dholka and afterwards to Ahmedabad, and found service under certain officials of Qutb-ud-din's court. The mosque at Dholka is much ruined, but the tomb of Darya Khan, which is the finer building, is in fair condition. This mausoleum is a large and imposing structure, 120 feet square, its tomb chamber in the centre being 50 feet side, rising up into a handsome dome on a high drum, the apex of the whole being 86 feet from the ground. Around this central chamber are ranged sixteen communicating cells, roofed by small domes, four on each side thus forming a kind of corridor, the outer side of each cell having an archway, opening on to the facade. The bases of all the domes both large and small, are supported on arched squinches, and every opening is a pointed arch, so that the entire structure, unlike any of the other buildings in Gujarat produced up to this time, is intentionally arcuate, and evidently built by men working according to a tradition with which they were inherently familiar.

Buildings of such a pronounced character as these might have influenced very considerably the prevailing style of architecture in western India, as they introduced fresh principles and a more scientific technique, but, as a matter of fact, although they may have had some effect, it was neither immediate nor marked. The indigenous workmen were too conservative and too closely attached to their own trabeate system to make any rapid change, and as to the use of brick as a building material, this never found favour in Gujarat. Taken as a whole the arch was accepted very tardily, for even as the style progressed and the arcuate system became more prominent, it never seemed really welcome, being grudgingly introduced more as a concession to Islamic authority, then as a valuable structural expedient. It is fairly evident that while the builders' hands were producing the arcuate parts of their scheme, their minds continued to think in terms of beams so that there sometimes appears a certain lack of conviction in their efforts at arch construction.

PRINCIPAL BUILDINGS OF THE FIRST AND SECOND PERIODS

FIRST PERIOD. (fourteenth century)	Date
PATAN. (Anhilavada)	
Tomb of Shaikh Farid (Muslim Saint) converted Hindu or Jain Temple .. .. cir.	1300
Adina Masjid, built by Ulugh Khan, Governor of Ala-ud-din Khalji, size of enclosure 400 feet by 330 feet. 1050 pillars (mainly destroyed) .. .. ,	1300
BROACH.	
Jami Masjid .. .. ,,	1300
CAMBAY.	
Jami Masjid	1325
Tomb of founder adjoining above, adapted from temple spoils	1333
DHOLKA.	
Hilal Khan Qazi's Mosque .. ,,	1333
Tak or Tanka Masjid .. .. .. ,,	1361

SECOND OR AHMED SHAH PERIOD (First half of fifteenth century)	Date
AHMEDABAD (founded 1411)	
Ahmed Shah's Mosque within the Citadel cir.	1411
Haibatt Khan's Mosque .. .. .. ,,	1412
Sayyid Alam's Mosque .. .. .. ,,	1412
Jami Masjid, finished .. .. .. ,,	1423
Tin Darwaza or Triple Gateway . .. ,,	1415
Tomb of Ahmed Shah .. .. .. ,,	1440
Tombs of the Queens (Rani-ka-Hujra) .. ,,	1440
SARKHEJ	
Rauza of Shaikh Ahmed Khattri	1446-1451
Tomb of Darya Khan .. .. .. cir.	1453
DHOLKA.	
Alif Khan's Mosque .. .. .. ,,	1453
AHMEDABAD.	
Qutb-ud-din's Mosque .. .. .. ,,	1454
Rauza of Malik Sha'ban, begun .. .. ,,	1454
Rauza of Sayyid Buddha bin Sayyid Yaqut ,,	1454
Mosque of Sarkar Khan .. .. .. ,,	1455

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Chapter XI

PROVINCIAL STYLE: GUJARAT
THIRD OR BEGARHA PERIOD (1459 to cir. 1550)

With the reign of Mahmud I Begarha, (1459-1511) came Gujarat's greatest days, and at the same time the building art of that country also attained its final and most sumptuous form. This high degree of achievement was effected through the encouragement that was extended to this mode of expression by the ruler's passion of monumental architecture. At least three important cities were founded by Mahmud, each one adorned with noble buildings, while Ahmedabad, the capital, even before this time a city of considerable architecture splendour, was made still more magnificent by his additions and improvements. So many were the monuments and building enterprises that came into being in all parts of his dominions during the last half of fifteenth and the beginning of the sixteenth centuries, it is only possible to select for description either those examples of exceptional character, or such as illustrate some specific stage in the evolution of the style; but a full list will be found at the end of the chapter.

The majority of these building schemes were mausoleums consisting of the usual combination of a tomb and its accompanying mortuary chapel or mosque, thus comprising what has been already referred to as a *rauza*. In such compositions the mosque always retains the customary arrangement of its parts, and its facade is almost invariably of the open variety. By this time, however, the mosque front had advanced a further stage in its evolution, as apart from the fact that the facades were of two kinds, either closed or open, other conventions were appearing. In the closed variety, in addition to the arched wall enclosing the front of the sanctuary, the minarets which form an essential feature of the facade, project always from the centre, one on each side of the main archway. On the other hand in the case of the open form of frontage, as this consists of a range of pillars, there was no place for the minarets except at the sides, so these were accordingly relegated to each end of its facade. In this closed form of sanctuary, as the style progressed the minarets at the angles gradually diminished in importance, becoming more slender in their proportions, until they finally ceased to function as minarets with inside staircases, eventually taking the shape of solid ornamental turrets. Of the open type of mosque that in the *rauza* of Sayyid Usman, now to be described, is a good example

The *rauza* or mausoleum of Sayyid Usman at Usmanpur, a suburb on the opposite side of the river from Ahmedabad, is one of the first monuments falling within the Begarha period, as its date is about A D 1460. Its two buildings, the tomb and its mosque, confront one another and being complementary in design, together produce an attractive symmetrical composition. Both structures are planned on a hypostyle principle while the mosque is one of the earliest examples of the type to have its minarets situated at each end of its open pillared sanctuary. Each separate element of this building is skilfully designed, yet as a whole it is not a completely convincing conception, as there is no central feature to pull the scheme together and make it a unity. Nothing could be more refined than the shapely pillars which group themselves along its front, while there is much that is pleasing in the proportions and treatment of the minarets in six stories, but in the whole there is lacking that element of rhythm, which if applied might have made this building an exemplary work of art. Of the tomb opposite to this mosque no such strictures apply, as it is a well-balanced building, square in plan, with the tomb chamber a square hall in the centre of a double aisle of pillars, and roofed by an adequate dome. This dome covers a space of forty feet side, rather an exceptional width, but its construction was accomplished by introducing an additional pillar in each angle of the square hall, thus producing a twelve-sided figure on which the circular base of the dome rests. This method of support had been already a matter for experiment a decade earlier in a similar structural problem which arose when building the dome over the mortuary chamber of Shaikh Ahmed Khattri at Sarkhej, but in the tomb of Usman its production was made perfect. About the same time the rich quality of some of the buildings appearing in Gujarat was increased by the introduction of an architectural motif in the form of an oriel window of attractive design. At first this motif was attached to the sides of the mosque sanctuary, but afterwards it found a place on the facade. The window itself was fitted with a perforated stone screen and projected in front where pillars, a shallow balcony, and a prominent eave. This feature was of indigenous extraction, probably of a secular origin, and was a useful as well as an artistic addition wherever applied

The building of two mosques closely followed on that of the Sayyid Usman *rauza*, in both instances of the closed variety, that of Miyan Khan Chisti being built in 1456, and of Bibi Achut Kuki in 1472 Both are of much the same type of design and are also equal in size, as their sanctuaries measure one hundred feet across and are forty-five feet deep. The facades of each are screens of three arches with minarets, lavishly sculptured, rising up on each side of the central opening. In the interior, pillared aisles divide the great hall into three compartments, that in the middle, forming a nave, mounting up into a double story, and each compartment is covered by a dome. These two buildings depict a further step in the development of the mosque front, for they show that the plan of providing pillars in the wings, as effected in the Jami Masjid, was disappearing from this type of facade, while a complete range of arches was becoming more acceptable. Another ad-

vance took place about the year 1475 when the mausoleum of Shah Alam was begun, which is the central feature of a group of buildings that were gradually formed on a site one and a half miles south of Ahmedabad. Of fair dimensions, as it is sixty-five feet square, there is something casket-like in the arrangement of this tomb, consisting as it does of one traceried compartment within another and the cenotaph enshrined in its centre. In this instance the building is composed of three concentric enclosures comprising an outer arcade of perforated screens, a colonnade of encircling pillars and within this, a screened compartment forming the tomb chamber, surmounted by a dome. But the chief architectural characteristic of this mausoleum is an indication of an increased use of the arch, as although the basis of the exterior screen still consists of a range of pillars, the spaces between are filled with an arcade of pointed arches.

It was in the structure of the tombs, as distinct from the mosques, that the actuate system began to make most progress, as may be seen in the groups of these sepulchral monuments at such places as Batwa, Mahmudabad and Champanir. This was due to the tomb design lending itself more readily to the employment of the arch, owing to the basis of its composition being a square hall. On the other hand, although archways appeared early in the mosque facade, its columned interior was more easily produced by means of the bracket and the beam. At Batwa, which is six miles south of Ahmedabad, the principal tomb is that of Qutb-i Alam, the mean date of its erection being 1480. Here may be seen a building, not as in that of Shah Alam described above, formed of a screen of arches enclosing a columnar interior, but a double-storied structure in which the arcuate system is used consistently throughout. It is a large square monument of one hundred and five feet base with a portico on its southern side projecting twenty-four feet. The plan and general arrangements are on the same concentric principle as in the pillared tombs as there is a double arcade forming its exterior, inside which is a corridor of arches, while in the centre is the square tomb chamber in two stories, the upper story carrying the dome. What makes this monument remarkable is that all its parts are either arched or vaulted, so that certain vistas of the interior are strangely reminiscent of the aisles of a Gothic church. Moreover, it indicated that by accepting the arcuate system, the builders realized their work gained in flexibility, and it increased their constructional powers. Yet in this particular example the plan shows by certain inequalities in its intercolumniation that it was apparently a trial effort, and its designers were not altogether sure of their ground. That such was the case receives proof from a tomb of much the same character erected a few years later, in which all these defects of inexperience have been remedied.

This tomb enshrines the remains of Mubarak Sayyid, erected about 1484 near Mahmudabad, a town some seventeen miles south-south-east of Ahmedabad, and is a building which represents the final and complete acceptance of the arcuate style in the tomb architecture of Gujarat. In it the builders have grasped fully the significance of the arch with the principles that this system of construction implies, and have manipulated these with such conviction that the result is very near perfection. Yet there is no little evidence in the formation of this building, that it was influenced very considerably by the style of tomb design which at the same time was finding favour at Delhi under the Lodi dynasty. This fact is however readily explained as it is more than probable that in view of the declining power of the Delhi Sultanate, craftsmen of all kinds were being attracted to Gujarat, a country then at the height of its power. The appearance and construction of this tomb, the simple planning of its parts, the disposition and proportion of its piers, the contours and poise of its dome and cupolas, and last but not least the introduction of the kiosks or *chattris* over the clerestory, one and all betray the influence of a master mason not drawn from the local guild of temple builders, but one experienced in the older and more mature architectural practices of Islam as these had been developed in Delhi.

As distinct from the type of tomb architecture referred to above, in the capital itself and in its suburbs the building art continued to progress in a natural and logical manner, except that the circumstances of increased affluence which now prevailed encouraged it to find expression in additional richness of effect. In 1492 the mosque of Muhafiz Khan was built, a structure on a decidedly small scale but so exquisitely fashioned as to exemplify one of the traits of the Indian patron whose occasional pleasure it was to demand such architectural gems of refinement. Covering a rectangle of only 56 feet, by 35 feet, within this limited space all the artistic motifs, elements, and architectural details of the style are compressed, the whole so skilfully combined as to form a building of more than ordinary elegance and grace. Shortly afterwards, at the beginning of the sixteenth century, appears the *rauza* of Rani Separi, its mosque not any larger than the foregoing, but again a work of goldsmith-like delicacy. In addition to its *bijou* qualities and almost ivory finished, this building is also notable in another direction as it marks a further evolutionary step, for at the ends of its pillared frontage are tall slender finials, the ultimate form assumed by the minaret, now converted from a turret with winding stairway into a solid and ornamental accessory. Finally, probably a decade later is the masjid of Sidi Sayyid, illustrating still another departure from the conventional mosque design, as it is composed entirely of arcades of arches, eight square piers supporting these to form the interior, over which is laid a flat roof. In the construction of the ceiling at least three different methods have been employed, such as the bracket, the diagonal beam, and the squinch, the last showing how slowly a system which had stood the test of centuries elsewhere was in the end accepted by the Gujarat builders who for centuries had been bound by an entirely different structural procedure.

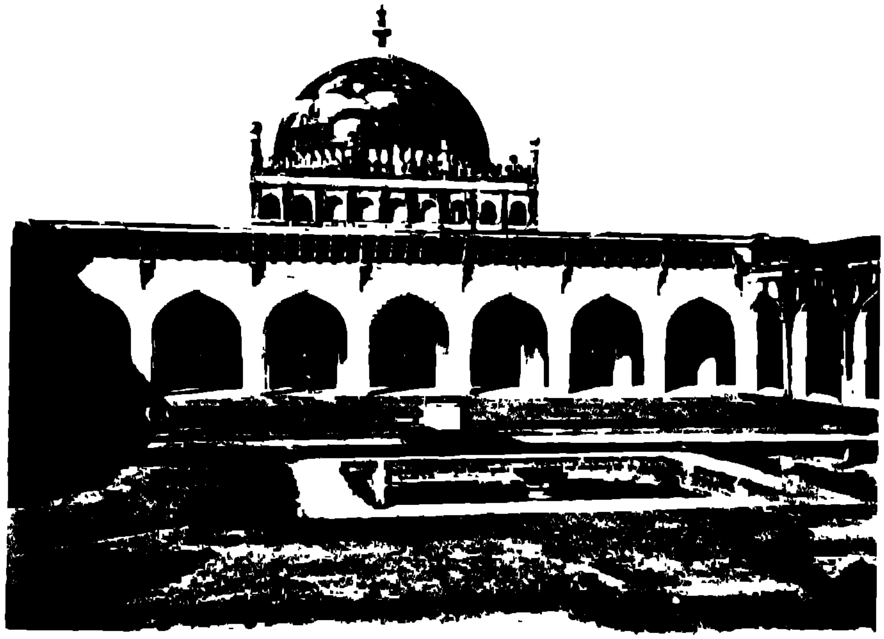
It is in the sanctuary of the Sidi Sayyid mosque that the walls are composed largely of perforated stone

screens of a character which has given this small and almost insignificant building a world-wide reputation. Screen of a similar type, as already shown were a frequent method of enrichment in all the architecture of Gujarat, and they were also the means of providing light and air. But the patterns of this tracery were usually relatively small, often in square panels while geometrical designs predominated. In the production of the Sidi Sayyid mosque, however, an artist was forthcoming with exceptional vision, who put aside all conventions, and proceeded to treat these stone tympanums as a finely meshed surface on which he could freely express in ornamental form what was in his mind. One of the subjects thus presented may be designated the "palm and parasite" motif, a common and natural phenomenon in oriental plant life, but here treated with such aesthetic sensitiveness and technical skill as to compare favourably with the applied art of any other country. This particular motif correspondingly interpreted, also appears in a mosque in Bengal (Chapter VII), suggesting some transference of thought across the sub-continent, from one mind intimately attuned to another. (Plate XLI, Fig. 1.) The mosque of Sidi Sayyid with its approximate date of 1510-15, is the last of the building in the style to show any marked originality, or to indicate that the art was still a living movement. Buildings continued to be produced however in this mode for another half century, but none of them show any special character, they are all repetitions or variations of what had appeared before. Among these may be mentioned the Rani Rupavati Rauza or Queen's Mosque (cir 1515); the Isanpur Rauza (cir. 1520); the Sarangpur Rauza (cir. 1530) and the mosque at the mausoleum of Shah Alam [cir. 1550 (?)].

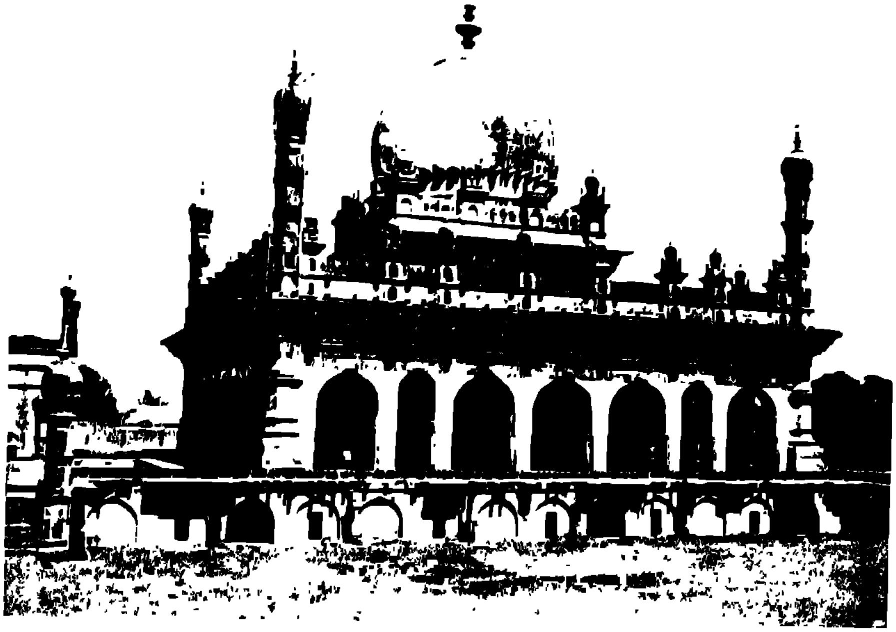
In the meantime while the building art was being maintained in the manner described above with it, centre at Ahmedabad, Sultan Mahmud Begarha was expediting the creation of his new capital at Champanirs which he had begun in A.D. 1485. It is necessary therefore to revert to this date in order to follow the course of this ruler's undertaking, which was the great architectural accomplishment of his reign. The city of Champanir is situated seventy-eight miles south-east from Ahmedabad, the site having proved agreeable and commending itself to the ruler, after his capture of the fort there from the Hindu chief Jaysingh Patai Rawal in 1484. It is recorded to have taken some twenty-three years to build and on its completion to have been occupied for little more than an equal period, after which it was deserted, to be left to the merciless hands of the despoiler for four hundred years. Now its fine buildings, broken and lifeless owing to the strangle-hold of the jungle, have an appearance scarcely real, from a distance they convey the impression of a shimmering mirage which on close acquiantance will dissolve into nothingness. But passing along its silent grass-grown streets from one noble monument to another, one realises that these are the very material evidences of the Begarha's brief days of power, they stand for his greatness when all else is forgotten.

Champanir was planned in the usual manner on an Indian capital, with a walled citadel containing the place as its focal point, while around this was grouped the outer city, the latter apparently covering a very large area as buildings forming part of it are unexpectedly encountered in the forest nearly three miles away. Then over all, towering up 2,500 feet, is the fortified hill of Pavagadh, with incidents in its history as romantic and tragic as any in India. The walls of the citadel of Champanir, with its bastions and well-proportioned gateways, and one or two civic buildings such as the Mandir or Custom House and quarters for the guard, still remain, but the majority of the monuments which have survived are mosques and tombs, the sacred character of these having protected them where the secular structures having been dismantled and plundered. Most striking of all the buildings is the Jami Masjid, a conception displaying in the skilful unison of its parts and in the symmetrical appearance of the whole, many of the accepted ideals of a finished architectural achievement. (Plates XXXVIII-XL.) Although of appreciable dimensions it is not excessively large, covering only about three quarters of the area of the Jami Masjid at Ahmedabad. Contained within a rectangle of 270 feet by 180 feet, rather less than half of this space is occupied by the sanctuary, while the courtyard is surrounded by a range of arched cloisters one aisle only in depth. A noticeable feature of the exterior is the rich treatment of its outer containing walls, which have received more artistic attention than most buildings of this type. For in addition to the three imposing entrance pavilions, one projecting from the centre of each of the north, south, and east walls (that on the eastern side presenting a distinctly fine example of architecture in itself), (Plate XXXIX) and the series of beautifully moulded buttresses on the *qibla* or western wall, there are at close intervals around the entire structure and its enclosure, traceried openings of a singularly attractive design. Before entering within the precincts of the mosque therefore, the spectator is prepared for its effect of stately elegance by these appropriate exterior embellishments.

The sanctuary facade is of the enclosed kind, containing five pointed archways with two slender minarets on each side of the larger central opening, the plastic ornamentation of these tall towers being confined to their buttress-like bases as the five stages above are left comparatively unadorned. (Plate XXXVIII, Fig. 1.) As a whole, this frontal screen is simply, almost economically treated, the plainness of its wall surfaces being relieved mainly by the addition of three of those prominent oriel windows which give such charm to the buildings of Gujarat, whether Jain, Hindu, or Islamic, one of these being placed above the central archway, and one on each side of the minarets. Through the central archway one enters the sanctuary, a pillared hall measuring 270 feet across and 130 feet deep, and containing 176 pillars with the nave in three stories rising from the middle bay and a mezzanine gallery for the zenana at the northern end. In the plan and general arrangements of this mosque it is obvious that its model was the Jami Masjid at Ahmedabad, built some seventy-five years before, but except for a few additional refinements the







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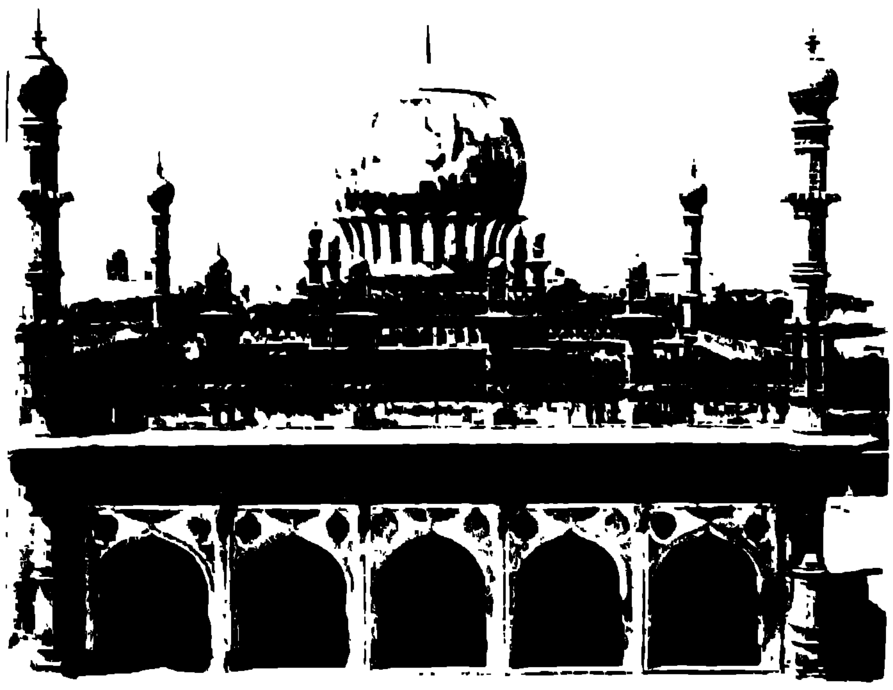
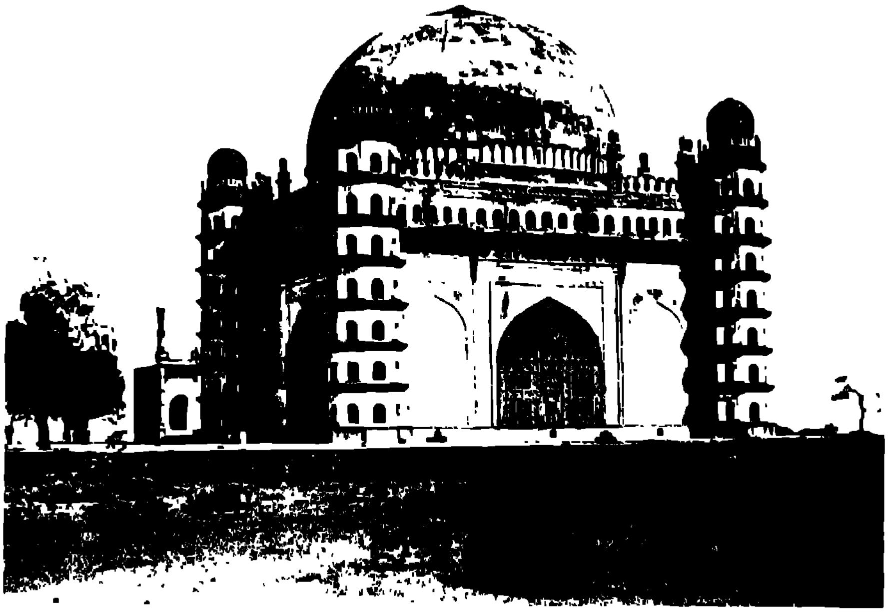
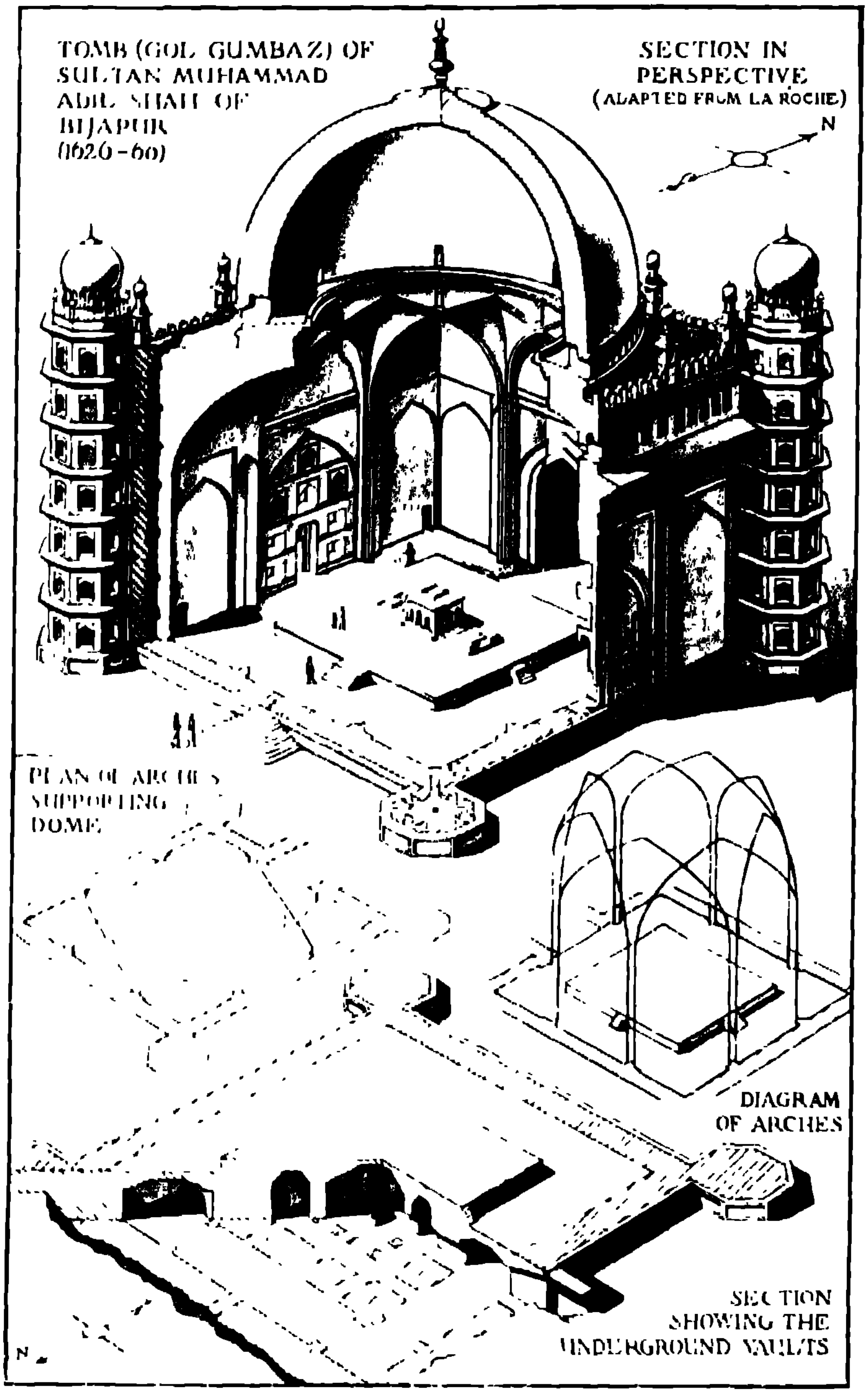


Fig [illegible]

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TOMB (GOL GUMBAZ) OF
SULTAN MUHAMMAD
ADIL SHAH OF
BIJAPUR
(1626-60)
SECTION IN
PERSPECTIVE
(ADAPTED FROM LA ROCHE)
N
PLAN OF ARCHES
SUPPORTING
DOME
DIAGRAM
OF ARCHES
SECTION
SHOWING THE
UNDERGROUND VAULTS
N

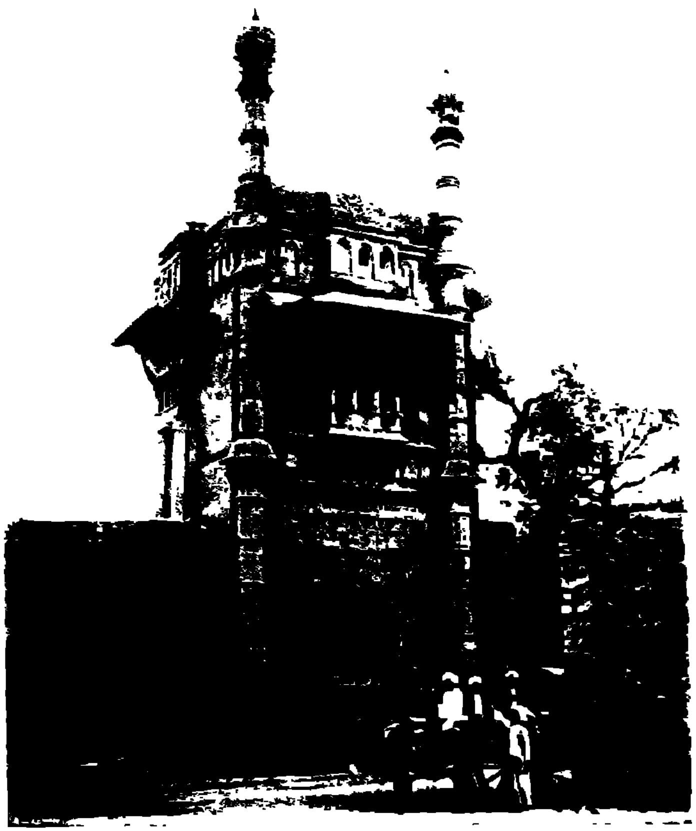
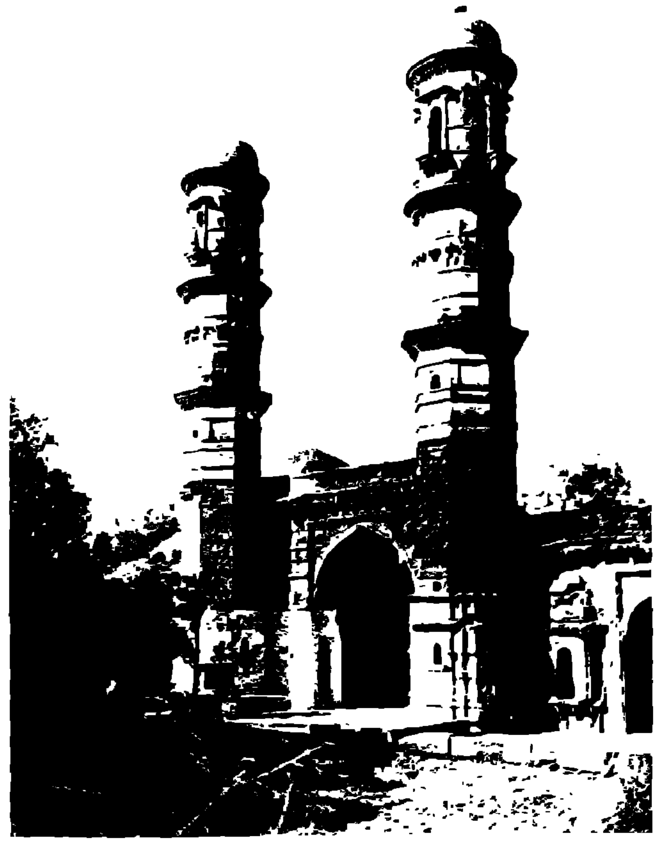
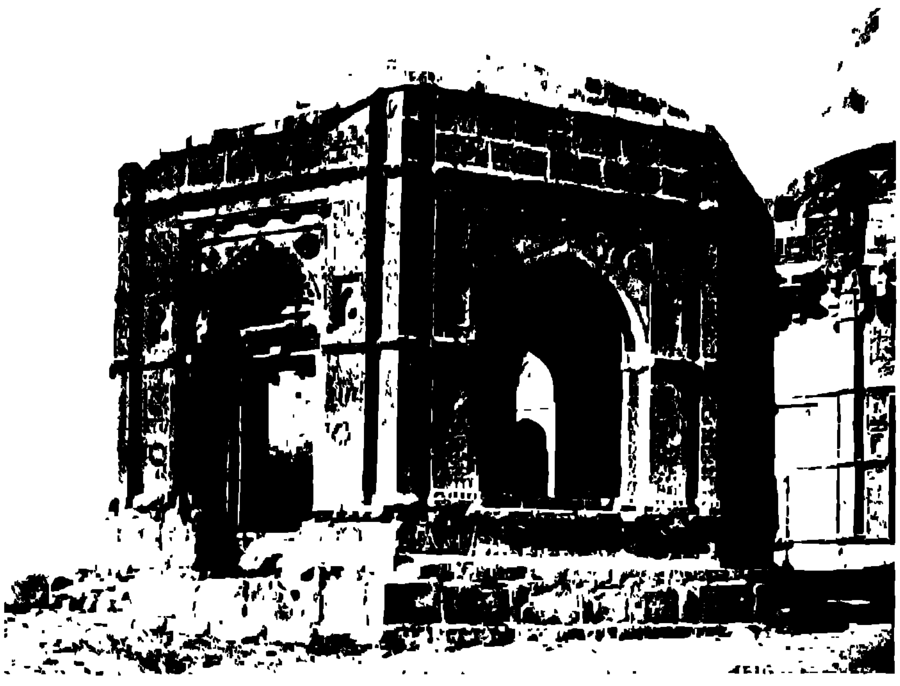


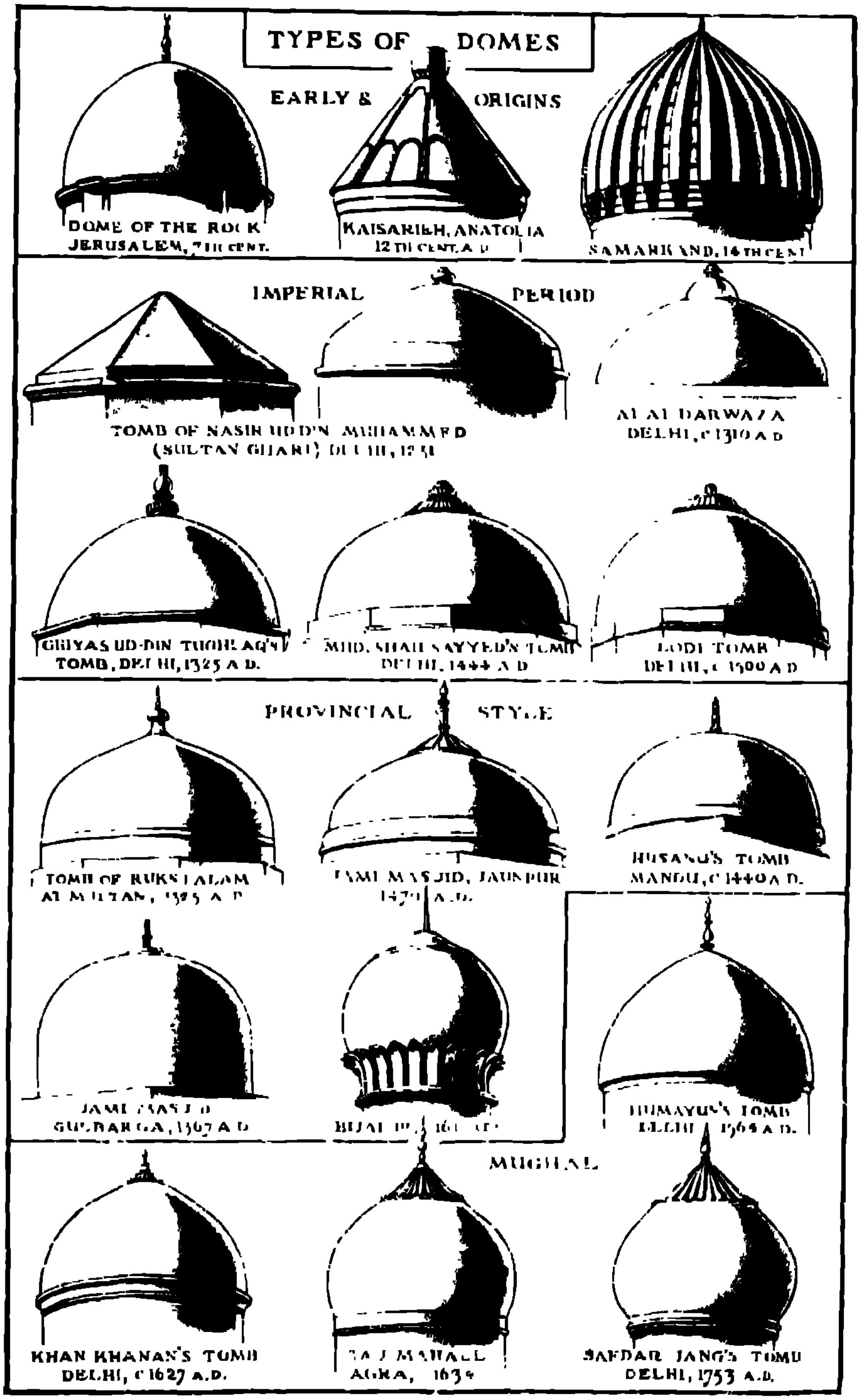
Fig. 1 Bijapur: Mehtar Mahal [illegible]



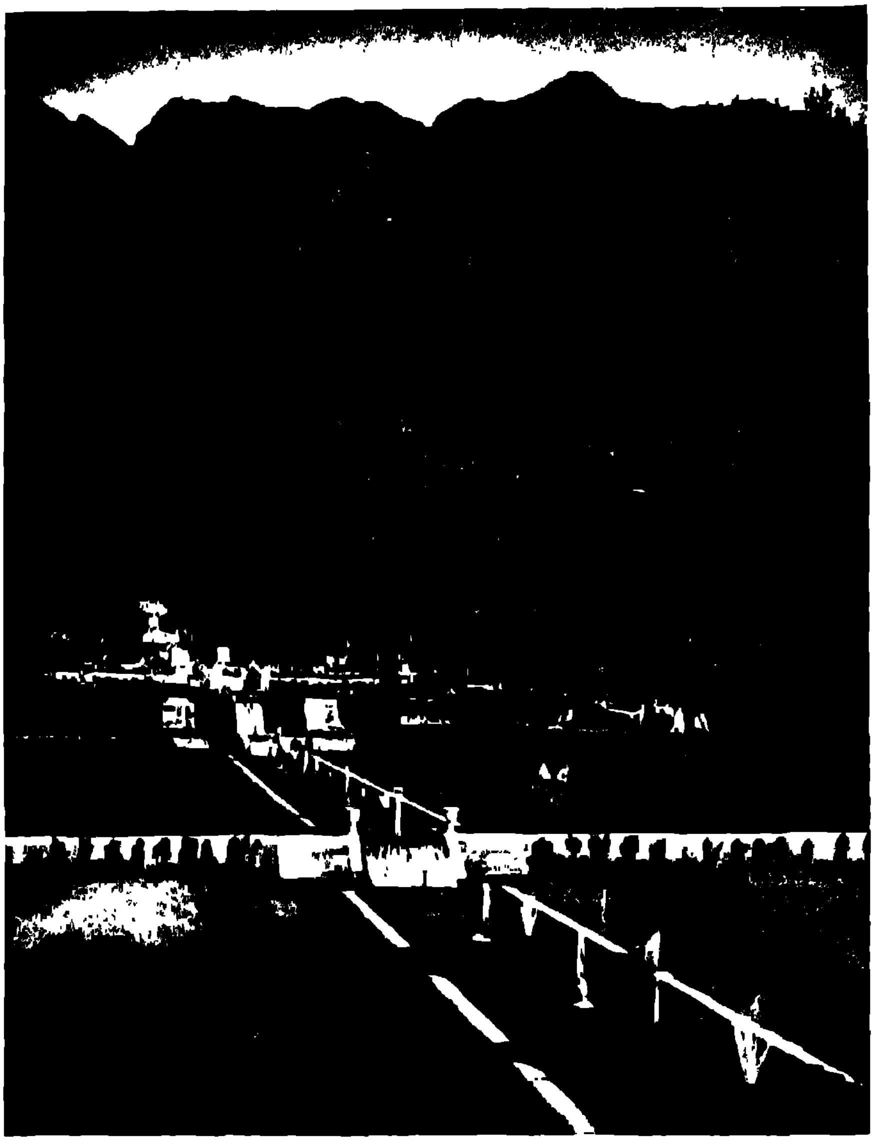
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TYPES OF DOMES
EARLY & ORIGINS
DOME OF THE ROCK
KAISARIEH, ANATOLIA
12 TH CENT. A.D
IMPERIAL PERIOD
TOMB OF NASIR UD-D'N MUHAMMED
GHIYAS UD-DIN TUGHLAQ'S
TOMB, DELHI, 1325 A.D.
LODI TOMB
PROVINCIAL STYLE
TOMB OF RUKN-I-ALAM
HUSANG'S TOMB
MANDU, C.1440 A.D.
HUMAYUN'S TOMB
MUGHAL
KHAN KHANAN'S TOMB
DELHI, C.1627 A.D.
AGRA, 1634
SAFDAR JANG'S TOMB
DELHI, 1753 A.D.

LVI



[illegible]

builders at Champanir could not effect any pronounced improvements on its beautiful archetype. Yet in comparing these two leading examples it is possible to feel a certain subtle difference existing between them, as though, to refer to a classic parallel, the one represents the Doric aspect of the style and the other the Corinthian, a fact illustrated by the design of the pillars, those in the Champanir sanctuary being more sophisticated, as may be seen in the vertical recessed chases of the shafts and in other architectural details of a similar nature.

Reviewing further the other arrangements of the sanctuary interior, the dominating feature of the whole is the upper structure of the nave which mounts up by three stories to a height of sixty-five feet. In principle this central scheme is a variation of that originally introduced into the Ahmedabad Jami Masjid, except that there seems to be even more of the temple influence in its composition. From the ground it rises up finally to take the form of a Latin cross with extremely short arms, and the well or "rotunda" is carried through the centre of the cross to be roofed by the dome. Access to each floor is obtained by a staircase in the minarets, the first floor being continuous with the roof of the remainder of the sanctuary, thus forming a wide terrace for ambulation among the cupolas and with the "rotunda" in the shape of a square well in its centre. The second floor is confined entirely within the limits of the Latin cross, but is a commodious pillared gallery, one end communicating with the oriel window above the main arch of the facade. In this story the balcony enclosing the "rotunda" is octagonal with the ribbed and richly fretted dome rising on pillars immediately above. Around each of the balconies are stone seats with sloping back rests; the galleries, themselves separated from the pillared prayer hall below, provide retreats for peaceful meditation, high up and away from the worshippers beneath. Those who designed such buildings were not only accomplished architects but students of human nature as well. (Plate XL.)

There are other and smaller mosques in Champanir, but all are in much the same style as that just described. It is noticeable that the architecture of this city had its own special character, differing in a modified degree from that in other parts of Gujarat The reasons for this is, that those employed in its construction seem to have settled down in the locality for a whole generation and, being more or less isolated, developed a mode of their own. Among the smaller mosques at Mahmud's capital is that known as the Nagina Masjid, a lovely little structure but merely repeating to a smaller scale the design of the Jami Masjid. More striking than these lesser mosques are the tombs, most of which are nameless and all considerably ruined. They are built on the conventional plan of a domed central chamber surrounded by an arcade roofed with smaller domes, while from one side projects a pillared portico. But where these buildings are distinctive is in the increasing use of the arch, the introduction of which brought with it greater height and an added grace, so that they form typical models of memorial monuments. The carved decoration which is disposed over the surfaces with great care and judgment leaving ample spaces to accentuate the charm of this embellishment, could not be equalled. None the less in some instances the details show signs of becoming mannered and mechanical, while the actual craftsmanship is lacking in that plasticity which is a fairly sure indication of the art having passed its meridian. (Plate XLI, Fig. 2.)

No account of the architecture of Gujarat under Muslim rule would be complete without reference to a certain number of structures of a secular order which, in both design and execution are by no means inferior to the religious buildings so far dealt with. Among these is a grand palatial scheme at Sarkhej projected and brought to fulfilment by Mahmud Begarha, consisting of a large artificial lake with his imperial residences occupying two of its sides. The main building of this composition presents a facade of a long double-storied colonnade with projecting bays at regular intervals, and pavilions on brackets breaking the skyline above. What remains of this palace is now merely an empty and shattered shell, but poised above a stepped terrace with its graceful columns reflected in the waters, even in its ruins it is still a chaste and elegant architectural conception, signifying the sumptuous spirit of the time. During a period of such universal aesthetic appreciation as appears to have existed in Gujarat, it is only in the nature of things that the most utilitarian objects should be treated artistically, among which mention may be made of the sluiceways, regulating the supply of water to the great lake referred to above, and also to another watergate at Kanhariya. Such accessories, ordinarily relegated to the background and regarded merely as a means to an end, in the hands of the Gujarat craftsman were made into attractive works of art, taking their place as an integral part of their economic and social environment. Just as much thought and skill were expanded on these conduits as on any other part of the composition, they were wrought in the same style of design, but sufficiently modified and restrained in execution to bring them to the level of their more humble purpose.

No utilitarian structure in Gujarat, however, illustrates more expressively the artistic atmosphere of the period than the architectural treatment accorded to the step-wells or *ways*, a common feature in the towns of western India. The practice of making these public wells into notable works of art began during the Hindu regime, and this tradition was not only maintained but considerably developed under Islamic rule. In no other part of India, nor in any other country, have these relatively commonplace objects been enlarged or embellished to such an extent, except perhaps during the Quattro-Cento period in Italy, where a civic spirit corresponding in a degree to that in Gujarat seems to have prevailed. But even the Florentine well-heads, although conceptions of rare elegance, are comparatively insignificant by the side of the *wavs* of Gujarat which were not merely erections over the well-shaft, but took the form of extensive subterranean galleries of a highly architectural order. The *wavs* or *bauli* consists of two

parts, a vertical well-shaft from which water is drawn up by ropes in the usual manner, and a commodious inclined passage-way descending by means of flights of steps in regular stages to the level of the water. Two of the most elaborate of these step-wells are the Bai Hari's *wav* in Ahmedabad constructed in (1499) and that at Adalaj, a village about twelve miles north of that city, and built about the same time. In the former which is a typical example, the only parts of the structure above ground level are the kiosks at each end of the scheme, the whole of the remainder being underground. The subterranean passage-way takes the form of a series of galleries connected by stair-ways in three pillared stories, so that a system of supercolumniation is an outstanding characteristic of the main composition. At each stage the gallery is expanded into a pillared compartment, and it is here that the similarity to the "rotunda" of the mosque sanctuary, previously referred to, is noticeable. For around each compartment are balconies, and thus each storey becomes a cool and quiet retreat, not unlike the upper stories of the naves of the mosques. When it is understood that the pillars, capitals, railings, wall surfaces, cornices, and borders of these *wavs* are almost as profusely sculptured as are the temples and mosques, some idea of their artistic and architectural importance may be realized; the dimensions also of some of these *wavs* are not inconsiderable, the Bai Hari, being 125 feet long, 18 feet wide, and 30 feet deep.

Such a virile manifestation of an architectural style as that which flourished in Gujarat, naturally penetrated into the surrounding territory, its influence being readily observable in several buildings on the western side of India. Among these are three mosques now situated in the State of Jodhpur in Rajputana, one in the town of Nagaur and the others at Jalor. At Nagaur is the Shams Masjid, believed to have been founded by the Governor Shams Khan as early as the thirteenth century, and its arrangements are such as to give support to this tradition. Yet the tall turrets at the extreme ends of the facade have in them something of the Firuzian character of the fourteenth century, at which date it may have been one of the series of historical buildings which this Tughlaq ruler states, in his "Memoirs"[1], he himself restored. But the whole conception of the facade with its tall narrow archways, and the interior containing its clerestory gallery under the central dome, all point to Gujarat influence of the fifteenth century, when that provincial style was most powerful. The other two examples, those in the town of Jalor, are the Fort Mosque and the Topkhana Masjid, both probably built in the first half of the sixteenth century. The former reproduces that graceful type of structure which prevailed in Ahmedabad towards the end of Mahmud Begarha's reign, but the latter, although not a copy, being rather more original in its architectural scheme, at the same time makes special use of the perforated screen element in the design of its facade. No feature of the Gujarati style was more distinctive than these stone lattices, usually arranged in square panels, and the Topkhana Masjid arcading filled with its lace-like patterns, displays this method of ornamentation to full advantage. It was very frequently not so much the principles of the building art, as the architectural decoration of the Gujarati buildings, that affected the styles with which this artistic province came into contact.

PRINCIPAL BUILDINGS OF THE THIRD OR BEGARHA PERIOD

(latter half of fifteenth century and after)

AHMEDABAD.	Date
Rauza of Sayyid Usman at Usmanpur	cir. 1460
Masjid of Malik Alam at Dani Limdi	„ 1460
Masjid of Dastur Khan	„ 1463
Mosque of Miyan Khan Chisti	„ 1465
Mosque of Bibi Achut Kuki	„ 1472
Mausoleum of Shah Alam	„ 1475
BATWA.	
Tomb of Qutb'l Alam	„ 1480
MAHMUDABAD.	
Mausoleum of Mubarak Sayyid	„ 1484
AHMEDABAD	
Masjid of Shah Fazl	„ 1487
CHAMPANIR	
Jami Masjid and other buildings	1485-1507

AHMEDABAD.	Date
Mosque of Muhafiz Khan	cir. 1492
Bai Hari's *wav* or step-well	„ 1499
Rauza of Darvesh Ali or Oja Bibi	„ 1504
Rauza of Rani Separi	„ 1505
Sidi Bashir's Mosque	„ 1510
Minars at Railway Station	„ 1510
Fath Masjid	„ 1510
Gumti Masjid, Isanpur	„ 1510
Paldi Mochrab Masjid	„ 1510
Mosque of Sidi Sayyid	„ 1515
Rauza of Rani Rupavati (Queens Mosque)	„ 1515
Isanpur Rauza	„ 1520
Sarangpur Rauza	„ 1530
Shah Khub Sayyid's Masjid	„ 1538
Mosque at the mausoleum of Shah Alam	„ 1550(?)
Mosque of Mohammed Ghaus	„ 1550(?)

[1] *Fatuhat-i-Firuz Shahi*

REFERENCE:

Burgess, J., *The Mohammedan Architecture of Ahmedabad* (Arch. Sur. of West. Ind., Vol. VIII), 1905.

Chapter XII

PROVINCIAL STYLE: MALWA. THE CITIES OF DHAR AND MANDU
(Fifteenth Century)

THE Provincial Style of Indo-Islamic architecture in Malwa, a region towards the west centre of the country, is the story of two cities, Dhar and Mandu. The former was the ancient capital of these parts, as for several centuries during the early mediaeval period Dhar was the stronghold of the Paramaras, a Hindu dynasty so powerful and who ruled over so large a kingdom that they originated the saying "the world is the Paramaras" There are records that these rulers were great patrons of literature[1], but they do not appear to have given any noteworthy encouragement to the visual arts of their subjects, as no specific development of architecture or its allied handicrafts seems to have existed within their territory, nor did its people possess any of those aesthetic qualities, which, as already indicated were such an outstanding feature of the adjacent country of Gujarat. Not that the cult of fine building was neglected, the temples of this part were sufficiently numerous to supply ample materials for conversion into the early structures of the Moslem invaders, but it is fairly clear that there was not quite that pronounced artistic impulse during the supremacy of the Paramaras that almost universally prevailed elsewhere. The result of this was that when the Moslems found themselves finally established at the capital of Malwa, they had to look further afield than their own possessions for skilled and experienced artizans to carry out any building projects that were in contemplation. Under ordinary conditions the Islamic rulers would have turned naturally towards the artistically productive country of Gujarat, the borders of which marched with their own for help in such a contingency; but the political relations between these two dependencies were not specially amicable and, as a matter of fact, Malwa in the course of over a century later was conquered and annexed by its more powerful neighbour For architectural inspiration therefore the Ghuri dynasty who at this time ruled Malwa was constrained to look in another direction, to the more distant city of Delhi, which, furthermore, had the advantage of being the fountain head of the art, and it was from this source that the requisite trained workmen were obtained, and with them the characteristics of the Malwa style[2]. In adopting this course the Ghuri rulers were aided not a little by the state of affairs at the imperial capital, where the authority of the Tughlaqs was declining, and with it building operations were being suspended, so that the Delhi artificers were no doubt fully prepared to take service under what was evidently the rising power at Dhar. No actual records of such a movement exist, but it is written clearly in the monuments of these two cities of Malwa, for reproduced in them we see architectural elements derived from the various styles of buildings at Delhi, such as the battering walls and pointed arch with spear-head "fringe" of the early Tughlaqs, the arch-lintel-bracket combination of Firuz, the "boat-keel" dome and pyramidal roof of the Lodis, besides several other structural practices and decorative motifs, each reminiscent of one of the architectural systems which at different times prevailed at the parent Moslem city.

These unmistakable features the hereditary artizans from Delhi skilfully incorporated in the buildings they were commissioned to produce at Malwa, but with them they also introduced original elements as well as motifs of their own, which helped not a little to give this manifestation of the building art its distinctive appearance. Prominent among these innovations was an attractive method of combining the two structural systems of the arch with the pillar-and-beam, forming it out of the temple materials, and in no other early type of mosque has this problem been more artistically solved. Another notable characteristic of the Malwa buildings is the appearance of long and stately flights of steps leading to their entrances, made necessary by the high plinths on which the principal examples are raised. These lofty terraces give an added dignity to the compositions as a whole, and the well-proportioned stairways elegantly wrought, provide an excellent introductory approach. But one of the most striking impressions conveyed by the architecture of Dhar and Mandu is not the result of its structural but of its decorative properties, as the element of colour takes a prominent part in the architectural scheme. Owing to climatic and other causes much of this polychromatic ornamentation has become considerably worn or has completely disappeared, but enough remains to explain its extent and character, as well as to prove that the workmen in these parts were definitely colour conscious. This colour effect was obtained by two methods, partly by the use of various coloured stones and marble, and partly by means of encaustic tiles. In the actual masonry of the buildings the principal material employed was a sandstone of a lovely red shade, obtained from the adjacent quarries of Bijawar, but in addition to this, the country around was rich in many kinds of marble and other stones of different tints and textures of which the builders took full advantage While marble was freely used as an overlay, black, yellow, slate, and other colours being also introduced, while in certain of the interiors semi-precious stones such as jasper, agate, and cornelian, were combined with the marble, but

[1] *History of the Paramara Dynasty*, D. D. Ganguly, Dacca, 1933

[2] History repeated itself in 1903, when the conservation of the buildings at Mandu was undertaken, as owing to the dearth of local workmen six fully qualified masons had to be imported from Jaipur, who attracting others from the surrounding States provided in the course of time the full establishment required for the purpose (*Archaeological Survey Report* 1903-4).

the most vivid colouristic effect was that obtained by the application of glaze. Border and panels mainly in patterns of strong but harmonious blues and yellows painted on tiles are distributed throughout the buildings, emphasizing in a most artistic manner their animated character. So much of this is even now traceable that it is evident there was a very flourishing industry in glazed earthenware at Mandu during the fifteenth century, and the fine colours the potters were able to produce show that they were adepts at their trade. They possessed the secret formula, now apparently lost, for the preparation of a turquoise blue which for brilliancy has never been surpassed, and the probability is that these craftsmen brought it with them from Multan, which again had derived it in the first instance from Persia.

The buildings at Dhar and Mandu besides illustrating the various phases through which the architecture of Malwa passed during this period, also provided a moving picture of the rulers and their courts, of the rise, culmination, and fulfilment of those who were responsible for the creation of these structures, and which formed an environment inseparable from the pageantry and gilded ceremonial of their lives. At Dhar, and in some of the earlier examples at Mandu, we see the first phase when the existing temples were dismantled and converted into mosques, the act of a robust and somewhat ruthless domination, denoting the breaking down of the old indigenous system, and on its ruins raising something new. In the course of time this preliminary period was followed by a style of building of a more substantial and formal order, represented by monuments of an original character having a sober and massive elegance, signifying that the Moslem rule had been firmly established, and had become the recognized constitution of the country. This is the second, or what may be termed the classical phase. Finally there ensued the third phase, when a less austere and more fanciful type of structure became the vogue, its buoyant effects implying a life of ease and of blithe luxury, as expressed in pavilions, kiosks, pillared courts, balconied turrets and colonnaded terraces, providing an appropriate setting to the sensuous and romantic conditions which brought the Khalji dynasty of Malwa to a close.

Exemplifying the first phase, which began about 1400, there are four mosques, two at Dhar and two at Mandu, which, as they are adaptations from temple materials, illustrate the style in its earliest aspect. At Dhar are the Kamal Maula Masjid (cir. 1400) and the Lat Masjid (1405), while the two at Mandu are Dilawar Khan's Masjid (c. 1405) and the mosque of Malik Mughis (1452). These mosques were constructed on the same general principles as were all those improvised in such a manner, but in some of them a specially determined effort was made to disguise more effectually than in any other manifestation, their temple origin. This took the form of introducing into the structure a sufficient amount of new work to cause its dislocated members to appear more connected, and thus to present something approaching more nearly to a homogeneous whole. It seems as if the incongruities of these patched-up compositions offended the artistic sensibilities of the builders from Delhi, and they therefore proceeded, in an attempt at unison, to add improvements in a manner of their own. Chief among these was a plan of interposing pointed arches between the pillars in certain central portions of the scheme, thus producing a more finished appearance to the columned interior. Nor that such arcuate additions were of much structural value, as they were too fragile to act as real supports, but they were of a singularly refined shape, made more so by the spandrils being relieved by perforated patterns. The skilful and elegant manner in which these adjustments were effected may be best studied in the outer porticos of the Lat Masjid at Dhar, and the Malik Mughis' at Mandu, where the lower stones of the arches are socketed into the shafts of the columns so that they appear to spring from pillar to pillar with an aerial grace.

But apart from there actual structure and substance, there is something strangely fascinating in the atmosphere of buildings which may be defined as architectural palimpsests, and which have undergone the experience of belonging to two entirely different states of consciousness, the Hindu and the Moslem. Designed to accord with the inward world on the former, they now find themselves in the service of the outward world of the latter, with all that this enforced transmutation implies. Evidences of this may be seen in the mode of construction, of the expedients employed, of stones being re-carved and redressed, of the ill-fitting of parts, while some of the pillars of the Malik Mughis' masjid, the latest example of the group, are rubbed and worn, showing that the supply of temple materials was by this time becoming scarce and that they had been brought from a considerable distance. This particular mosque is the finest of the series and typical of its kind. It is built on a high plinth measuring 150 feet long by 132 feet wide, with a range of arched chambers in the basement of its eastern exterior, while its arcaded portico, referred to above, is approached by a suitable flight of steps. Two domical turrets, one at each corner of this front recall similar features characteristic of the mosques of Firuz Tughlaq produced at Delhi some seventy-five years earlier. The interior of the Malik Mughlis' masjid has a courtyard of approximately 100 feet side, and the sanctuary, as in all the mosques of this style has no arched, facade, but is of the open pillared variety. Above this pillared frontage arise three "boat keel" domes of equal size, supported on octagonal drums and encircled with a bold parapet of merlons. The main architectural effect of the interior has been obtained by the treatment of the columned hall of the sanctuary, which is four aisles deep, while the *qibla* or western wall has the usual range of decorative mihrabs. At three places in this columned hall the pillars are so disposed as to provide open spaces, thus forming a nave and two aisles. These spaces are octagonal as they are contained within eight pillars, the intervals between each pillar being filled with pointed arches, while above is a domical ceiling. It is the incidence of these three open bays enclosed by arches within the rows of pillars that give the sanctuary its charmingly varied appearance. The remaining exam-

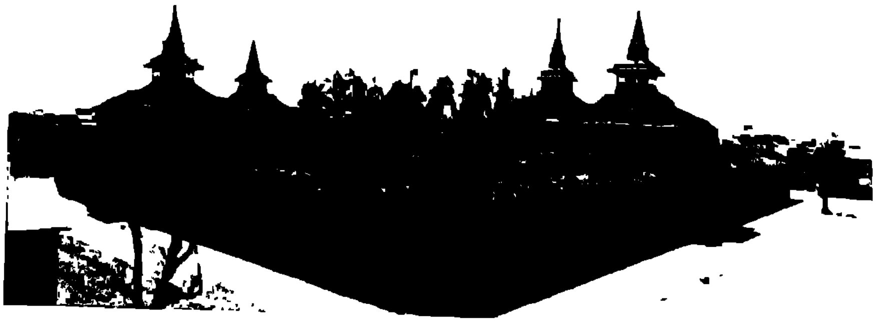


Fig. 1

General View: Exterior

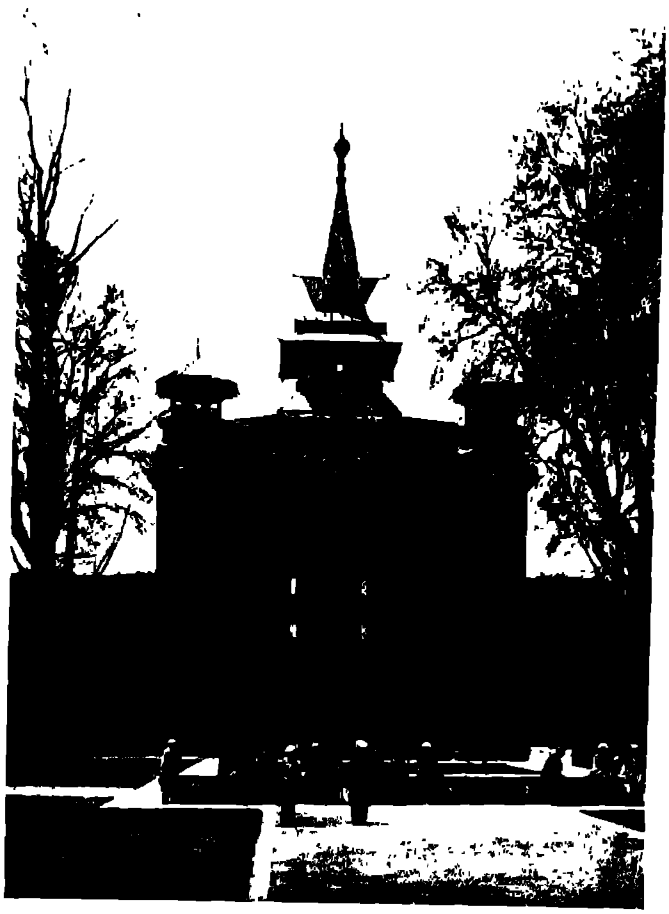


Fig. 2

Srinagar, Kashmir: Jami Masjid. Founded 1400; reconstructed seventeenth century



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ples of this group of mosques are all planned and constructed on the same principle as the foregoing, differing only in their dimensions and in certain matters of architectural detail.

The beginning of the second phase of Islamic architecture in Malwa coincides with the establishment of the capital at Mandu, and also the first step taken towards the erection of its finest monuments. The conception of the new seat of the government appears to have been initiated early in the fifteenth century when, in addition to the battlemented walls, among other buildings the first of the fortified entrances to the city were constructed, such as the Delhi or northern gateway, and the Tarapur gateway, both within the years 1405-7. The former is a grand portal consisting of a sequence of archways, their shape and structure with the "spearhead fringe" being of the same order as those in the tomb of Ghiyas-ud-din at Tughlaqabad (1324) but more substantially treated to suit their sterner purpose. It was however during the fullness of the reign of Hushang Shah (1405-35), the second ruler of the Ghuri dynasty that the new capital was principally developed, to understand which, some indications of the situation and plan of the city of Mandu are necessary.

When the Ghuri rulers of Malwa moved their capital seat from Dhar to Mandu, twenty-two miles away they were primarily actuated by a desire, for security, their object being to provide themselves with a fortified, position which could be defended without undue difficulty. The situation that Mandu presented, of a natural barbican in the shape of a spur projecting from the Vindhyan range and connected by a narrow neck of land, was ideal for such a purpose, and here on the plateau thus formed some two thousand feet above the sea, and within an area of less than twenty-five miles in circumference they proceeded to lay out a fortress-city. Apart from its wonderful situation, surrounding as it is by a steep gorge called the *kakra koh* (winding chasm) signifying its fantastically irregular character, this elevated plateau is a scene of the most enchanting variety. Contrasting with undulating tracts shaded by trees, are dark pools nestling in the hollows and larger lakes glistening in the sunshine, while rocky ravines alternate with sloping swards the entire effect being almost unreal in its beauty, suggestive of a stageland setting on the grandest scale. And to complete the illusion, a thousand feet below are spread the vast plains of the Narbada, the delicate opalescent tints of which formed by distant cultivation and winding waterways provide an entrancing background to the whole. On many of the prominent position within the broken surface of this magic landscape, rising above the trees and crowning the heights are arcaded pavilions and pillared kiosks, turrets and cupolas, marking the royal halls and palaces, while on the spacious levels are grouped the more stately and formal monuments such as mosques, colleges, towers, and mausoleums With such an environment, it is not remarkable that here was staged in the first half of the sixteenth century, the drama of the love of Baz Bahadur and Rupmati, immortalized in verse and prose[1], and unequalled in passion and poignancy by few such episodes of the East. But Rupmati the "Lady of the Lotus," and Mandu the "City of Joy"[2] are now things of the past, the buildings are in ruins, the crumbling palaces are a dreamy emptiness; some of its beauty still lingers, but it is the striken beauty of decay.

Buildings of different kinds are distributed over nearly every part of the plateau, but there are some forty separate structures of consequence now remaining. In the arrangement of these edifices no comprehensive effort at town-planning is observable, the broken nature of the terrain precluding any strictly formal scheme but at one open space a spectacular grouping of the larger monuments was effected. Here, two main thoroughfares were aligned to meet at right angles, the more important of the two, over thirty yards wide and running from north to south, passing in front of the principal entrance to the great Jami Masjid, with another immense structure known as the Ashrafi Mahall exactly opposite, the fine flights of steps leading to each being vis-a-vis Rising up from the corner of the latter building was a lofty Tower of Victory of seven stories (*Haft Manzil*) of which only the base remains, but it appears to have been over one hundred and fifty feet in height The other thoroughfare, which centred on this tall tower, was carried along the northern side of the Jami Masjid, and from it another important building was approached, the noble mausoleum of Hushang Shah. This is a domed structure contained within an enclosure adjoined to the western or real wall of the mosque, so that all these great architectural compositions were planned on one axis, from east to west. Outside this group of major monuments there were other buildings of lesser significance, while the main thoroughfare, in the form of a processional route, seems to have progressed in a northernly direction to connect with the residential area consisting of the principal palaces, durbar halls, and imperial apartments, finally leading to the Delhi Gate, the chief entrance to the city.

The largest and most impressive building of this great central group is the congregation mosque of the city, the Jami Masjid, which having been begun by Hushang was finished by his successor Sultan Mahmud I about A.D. 1440 (Plate XLII.) As this mosque covers a square of 288 feet side it is a spacious example of its kind, especially as on its eastern front it is prolonged another 100 feet by a projecting domed entrance hall and a wide flight of steps. There are also two subsidiary entrances on the northern side, one for the use of the priestly establishment, and the other a private doorway for the zenana, both elegant structures, breaking in a pleasing manner the otherwise plain extent of its exterior wall. As the building is raised on a high plinth, this enables the front side of the basement to contain a series of arcaded chambers for public use as a serai. The entrance hall to the mosque, still bearing traces of some

[1] *The Lady of the Lotus* by L. M. Crump, Oxford, 1926.

[2] *Mandu, the City of Joy* by G Yazdani, Oxford, 1929.

exquisitely coloured borders and panels in glazed tiles, is chiefly remarkable for the manner in which this domed gate-house rhythmically responds to the three similar domes of the sanctuary on the other side of the courtyard, conveying to the total composition the essential qualities of balance and measured accentuation. The courtyard, which is 162 feet square, is surrounded on all four sides by arched arcades, the eleven openings in each side forming a facade to the pillared halls within. Of these pillared halls those on the north and south sides are three aisles deep, that on the east is in two aisles, while that on the west, which constitutes the sanctuary has as many as five aisles to make up its width. This sanctuary is further distinguished externally by the three large domes already mentioned, but in addition to these, the entire formation of the roof is covered with a symmetrical pattern of cylindrical cupolas, one being placed over each bay of the interior, thus aggregating 158 in all.

Passing into the columned hall of the sanctuary, one is struck at once by the effect produced by its repeating arcades of arches, the manifold rows of which, one within the other, give this interior not only a stately appearance but also an atmosphere in keeping with its sacred purpose. (Plate XLII, Fig. 2.) These aisles of pointed arches are moderately plain in design with only an occasional display of ornamentation, but a passage of rich variety is introduced into the scheme by means of sculptured mihrabs at regular intervals in the qibla wall, and by an elegantly designed *mimber* (pulpit) in the central bay. Except for these well-defined elaborations, and some restrained colour decoration, this building relies for its architectural effect on the simple broad treatment of its constituent elements, on the value of plain surfaces judiciously disposed in relation to one another, and on the graceful lines, curves, and planes with which it is fully endowed. Nothing could throw a stronger light on the difference in character that developed between certain of these provincial styles than a comparison of this mosque with the Jami Masjid of Ahmedabad. Less than two hundred miles apart, the two buildings were undergoing construction at about the same time, and, although both were built with exactly the same object and on much the same general plan, no two structures could be more dissimilar in their architectural treatment No practical purpose would be served by contrasting in detail the corresponding features of these two compositions, an incorporal approach may be more enlightening and by comparing their humanist qualities, some idea of the architectural temper of each may be obtained. For instance the Gujarat mosque, which is also rather larger than that at Mandu, seems in the variety and multiplicity of its parts to possess a definite volubility, it is almost prodigal in its utterances, but at the same time it is clear in the enunciation of its fully concentrated tones, and any undue fluency has been admirably restrained by its creator. On the other hand the Malwa examples is in no sense vocal, it is an assemblage of solemn silences, of muted passages with only an occasional articulation, of rhythmic but soundless movements; by means of the latent depth of its expressiveness it makes its appeal.

Facing the Jami Masjid at Mandu, and approached by a noble flight of steps, aligned with and repeating those leading to the mosque is the large structural complex known as the Ashrafi Mahall (Palace of the Gold Mohur), dating from the early years of the reign of Mahmud I (1436-69). The whole project in now a crumbling ruin, having apparently been hurriedly, even carelessly, built, its walls being composed of roughly prepared rubble; it evidently relied for its effect, not so much on its architectural construction, as on its variegated and colourful surface treatment. By its style it shows that a change in the building art had taken place, probably due to an interruption in the ruling dynasty, for hitherto Malwa had been governed by the house of Ghuri, while the promoter of this monumental conception was the first of the Khalji line. The Ashrafi Mahall which, when complete, occupied a square of 320 feet side, consisted of three distinct structures combined in this one composition, the gradual and also fortuitous formation of which may have occupied a period of several years. The first of these buildings to be erected was a college of *madrassa* a structure in one storey and taking the form of a range of halls and compartments around a large rectangular courtyard, with a circular tower at each corner. Portions of this building now constitute the ground floor of the larger and supplementary scheme which was subsequently evolved, but the college rooms with a corridor of double arches may be seen along its front, some of the ceilings being pyramidal vaults of interesting design. A short time after the madrassa had been built, it appears to have occurred to the ruling power that this extensive structure could without much difficulty, be converted into a terrace, on which the imperial mausoleum might be raised, and accordingly this was undertaken, probably about 1450 Such a proposal necessitated the filling in of the college courtyard, which, when completed, provided an immense plinth some twenty-seven feet high, and in the centre of this the royal mortuary chamber was erected. To form an entrance a grand flight of steps was projected from the front of the madrassa at the top of which a pillared portico was placed, with loggias on each side, the entire conception presenting a very impressive approach. Of the mausoleum building itself only a few portions are standing, but it was obviously a hall of imposing appearance, its interior measurements being over sixty five feet side, while over the whole was an immense dome. Even from its fragmentary remains, however, it is possible to realize that few buildings could have been more sumptuously embellished, as each wall was faced with white marble, and the doorways, windows and cornices were elegantly carved, while in certain places patterns in choice stones were inlaid, with friezes of blue and yellow glaze. Had the quality of the construction been equal to that of its ornamentation, the mausoleum of the Khaljis might have survived as one of the most resplendent of Moslem architectural creations.

The third and last structure comprising the Ashrafi Mahal was probably the most spectacular of all the buildings at Mandu, and appears to have been added to the scheme some time after 1443. This

was a Tower of Victory taking the place of the turret originally occupying the north-east angle of the college building being raised by the Khalji ruler Mahmud to commemorate his conquest in that year of the Rana of Chitor. It is, interesting to note that a little earlier the Chitor Rana himself had erected that famous and beautiful tower, the Jaya Stambha, at Chitor to celebrate his victory over Mahmud, a fact which evidently inspired the latter to counter this when the opportunity occurred, with his own triumphal column. Only the basement of the Malwa ruler's monument now remains, while that at Chitor still stands intact after nearly five centuries, thus proving that the Rana retained in his service the better builders. But from the remains and subsequent records, it is clear that Mahmud's memorial column was a brilliant production rivaling in richness the magnificent royal mausoleum previously described and over which it towered. Built of red sandstone in seven stages the whole structure rose up to a height of one hundred and fifty feet, with balconies projecting over a marble string-course demarcating each story. Four openings with eaves, supported by carved pillars, gave access to each of these balconies while patterns of inlaid marble in a variety of colour, were carried at intervals around its curved surface. Its construction however appears to have been no better than the other parts of this grand architectural conception, with the result that owing to inferior workmanship, this remarkable edifice has also been irretrievably lost.

The remaining monument of the central group at Mandu is the mausoleum of Hushang, conceived and partly built by that ruler, but completed by his successor Mahmud about 1440. (Plate XLIII, Fig. 2.) This tomb stands in the centre of a square enclosure and contiguous to the western wall of the Jami Masjid thus enabling the Ghuri king to repose in his stately mortuary chamber under the shadow of the great triple-domed mosque that he had founded. A domed portico on the northern side of the enclosure, leading off from the main thoroughfare already referred to, forms the entrance, while there is a pillared cloister along the western side for devotions or accommodation. The tomb building itself is a square structure, standing on a broad plinth and surmounted by a large central dome with a cupola at each corner. Of no means size, as the plinth is 100 feet in diameter and the building is 86 feet side with walls over 30 feet high, although enriched with a complete facing of white marble relieved by occasional passages of colour, in effect, even for a mausoleum, it is a stolid and somber pile. There are triple openings on two of its sides the central archway on the south providing the doorway but the remaining two walls are plain uninterrupted surfaces. It is the lack of variety in its compositions that gives this building its austere and profoundly contemplative appearance, especially notable if it is compared with the not far distant mausoleums of Gujarat, with their brilliant light and shade effects produced by columned and arcaded facades; yet like many of these elegant structures at Ahmedabad the Malwa tomb is also composed of white marble, being one of the earliest of its kind to be constructed of this material. There are several other tombs of the same character at Mandu, but all much smaller and apparently of a later date. Such is that of Darya Khan, and those now known as the Dai ka Mahall and the Chhappan Mahall, all of which are distinguished however by a much higher drum to the dome, giving them more elevation and poise. The royal mausoleum of Hushang was no doubt the preliminary model, on which the later examples were an improvement.

Two other buildings at Mandu belong to this classical phase of the style, but they are situated away from the central group just described, as they are palaces, and are therefore located in the residential quarter of the plateau. One of these is the Hindola Mahall, an example of the Malwa mode in its most decidedly stern and resolutely stable aspect, while the other is the Jahaz Mahall, and illustrating it in a vivacious and fanciful mood, so that these two contrasting buildings represent the opposite and extreme poles of this architectural movement. The Hindola Mahall appears to have been one of Hushang's projects, and its date in that case would be about 1425, or a little later, while its use was obvious that of an assembly or durbar hall. (Plate XLIV). Few buildings in India present a more striking appearance or are more solidly constructed than this amazing pile, and few could be more unusual or illogical in design, so that one is inclined to classify it as a freak or even a "folly." For its inordinately thick walls slope like those of a castle keep, while its whole character recalls that of a fort in miniature, but without any visible reason. So pronounced is the battering of its "buttresses," as they are inclined at an angle of over seventy-seven degrees, it is commonly believed to create the illusion that the entire structure is swaying, hence its name the Hindola Mahall or "Swinging Palace" In plan, the building is in the form of a letter T, the upright stem representing the main hall, which appears to have been built first, while the cross-bar, indicates a transverse portion which may have been added a little later.

Taking the main hall first, this is an oblong building 110 feet long, 60 feet wide, and 35 feet high up to its cornice, having in each of its longer sides six tall deeply sunk arches containing a doorway below and a window above; in the short side are three similar arches, the middle one of these forming the main entrance. The interior is one large compartment, an uninterrupted space measuring 88½ feet long by 24½ feet wide, and 32 feet high, with a series of five boldly fashioned pointed arches projected across its width, thus acting as ribs to support the flat roof. So substantial are these transverse arches they are responsible for the erroneous theory that they were the ribs of a true vaulted ceiling, but, as a matter of fact, the entire roof rested on wooden beams, as the sockets for these are still visible, although the beams have perished. The other portion of this "Mahall," the transverse building corresponding to the cross-bar of the letter T, is in plan practically of the same dimensions as the main hall, but differs from that structure in elevation as it is in two stories; it is also

in a less formal style, as the doorways and openings are of the more usual kind, some of the latter being oriel windows of artistic design. The arrangements of the interior of the transverse portion, especially of the ground floor, are somewhat intricate, as this latter contains a cruciform gallery, one short arm of which ends in an archway opening on to the main hall; there are also subsidiary passages not connected with the cross gallery and entered by a separate doorway. The upper storey, which overlooks the main hall, through a similar arched opening, in a simpler scheme, as it consists of two halls, one longitudinal the other transverse, the former being a rectangular hall, 70 feet by 40 feet divided into three aisles by two rows of pillars, while the latter is a smaller compartment and may have been a retiring room.

That the entire structure of the Hindola Mahall was intended as a combination of Audience Hall and Royal apartments is beyond doubt, but, on the other hand, the character of its construction is distinctly enigmatical, notably the incongruous bulk and strength of the walls which, it is presumed, were so devised in order to carry a massive superstructure, with however never materialized. One explanation may be that it was originally intended to add the zenana place as another storey above the main hall, an assumption supported by the fact that the main and transverse halls are of much the same dimensions in plan; this project, had it matured, would have necessitated, a substantial sub-structure, although hardly of the elephantine proportions of that now existing. In any case, if such scheme were contemplated, it seems to have been abandoned during the course of construction, and the present transverse arrangement substituted, with the usual disconnected result such a change of plan would involve. Nevertheless there are features in the composition of the Hindola Mahall which are not wanting in dignity, as for instance the archways, both inside and out, together with the fine sweep of the interior, and while some of the details such as the oriel windows, have no little charm, although as an architectural conception it is on the whole decidedly more curious than beautiful[1].

The Jahaz Mahall, the final building representing the classical phase of the building art at Mandu, was most probably built by Mahmud early in the last half of the fifteenth century, when the style was beginning to progress towards that lightly elegant and fanciful mode which characterised its third and last appearance. (Plate XLIII, Fig. 1.) This palace is a long, double-storied building extending for some three hundred and sixty feet along the waterfront of two small lakes, the Kaphur, or "Camphor," Talao, and the Munja Talao, while its width, being less than fifty feet both its position and shape may have suggested its name of the Jahaz Mahall or "Ship-Palace." In this structure, there is none of that ponderous walling or excessive solidity, nor that appearance of stolid dignity so pronounced in the building just described, instead it is in character more lively and entertaining, and its surfaces are gay with friezes of brightly coloured glaze. The body of the building has a continuous arcaded front, shaded by a broad eave above which is a kind of triforium of recessed arches with a wide parapet displaying a repeating pattern of tiles. On the roof are various open pavilions, airy kiosks, and overhanging balconies all of an imaginative nature, the whole of which reflected in the still waters of the lake presents a picture of no ordinary beauty. The interior arrangements consist of pillared compartments, cool corridors, and sumptuous bathing halls, all at one time luxuriously fitted and furnished for the accommodation and diversion of the royal ladies and those of the court. Yet although the building is throughout expressive of pleasurable beguilement and of care-free living, nonetheless every part of its design has been skilfully worked out, and both composition and construction are of no mean order. This specially applies to the shape and grouping of the superstructures, in which elegantly proportioned cupolas, alternate with pyramidal roofs while projecting eaves and cornices produce gratifying passages of light and shade.

The third phase of the Malwa style was a logical development of the example described above, and prevailed towards the end of the fifteenth and the first half of the sixteenth centuries, when, discarding realities, those in power indulged in a long drawn out orgy of aesthetic enjoyment. Actively encouraged by the ruler, music, poetry, and similar forms of expression flourished exceedingly, and in keeping with the character of these arts, sumptuous retreats were erected in various pleasances where the lighter side of court life could be either privately luxuriated in or publicly practised. The buildings produced for this purpose took the form of summer-houses, palaces, and pavilions, the ground floors of which usually consisted of a series of compartments grouped around a central courtyard graced with pools and fountains, while above were arcaded loggias roofed with fluted domes, the surfaces everywhere gorgeous with painted tiles. Such were the edifices now known as Baz Bahadur's Palace, Rupmati's Pavilion, Nil Kanth Palace, and Chishti Khan's Palace, all expressive of the highly emotional life of the time, but none of them of any outstanding architectural appearance.

In addition to the original style of building as this developed in Malwa at the capital city of Mandu, a local manifestation having much the same character

[1] It is possible there may have been some esoteric meaning in the design of this building, as there was another and almost exact copy of it produced about fifty years later in the Fort of Warangal, a stronghold in the Deccan towards the eastern portion of H.E.H the Nizam's dominions of Hyderabad. This replica of the Hindola Mahall at Mandu is known as the Audience Hall of Shitab Khan, the Governor of Warangal towards the end of the 15th and the beginning of the 16th centuries, and there are records that there was frequent intercourse between the rulers of Malwa and the States of the Deccan. The Warangal building was constructed by an architect who was quite familiar with all the details of Hushang's Mahall, and is built on the same system although it is slightly smaller in scale, and there is the addition of a shallow cistern for water in the centre of the main hall. As in the Mandu example there are the same pointed arches to support the flat roof, which in this instance, owing to faulty construction has also fallen. (Report of the Archaeological Department of Hyderabad 1925-26).

prevailed at the town of Chanderi, now in Gwalior State. Situated west of Lalitpur, this historical dependency in the fifteenth and early sixteenth centuries was in the possession of the Ghuri and Khalji kings of Mandu, and these rulers have left substantial architectural records of their occupation. The earlier buildings are similar in style to those at the Malwa capital, but in the course of time there are indications of an infiltration from other schools. These extraneous influences were produced by the same process of supply and demand as existed at Mandu, for, as the number of resident artisans was small, these had to be supplemented by others from elsewhere. In the case of Chanderi this outside element comprised workmen evidently recruited from Ahmedabad, who brought with them the characteristics of the style of Gujarat, the result of which may be recognized in the later examples. There are five buildings at Chanderi having architectural pretensions, consisting of a palace, a mosque, two tombs, and a gateway, and as the production of these extended over a period of a century and a half, the course of their development although of no special significance, is well defined.

The earliest and also the most important of these Chanderi monuments is the palace, known as the Kushk Mahall, in the suburb of Fathabad. (Plate XLV, Fig. 1.) This partially ruined structure has been identified as a seven storied palace ordered to be built in 1445 by Mahmud Shah I of Malwa. Although only the remains of four stories now exist, the mass of debris that until recently lay within its walls, proves fairly conclusively that at one time it was a much higher building. It is square in plan, having a diameter of one hundred and fifteen feet, and has an entrance in the middle of each side, with balconied windows at regular intervals relieving the otherwise plain surface of its exterior walls. The arrangements of the interior are unusual. Two arched passages crossing at right angles are the dominating features, thus dividing the whole into four quadrants within which are accommodated the palace halls. These halls rise up story upon story, each opening out on to the tall arched passages inside, with light admitted through the balconied windows on the outside. It is a simple scheme but singularly effective, the architectural treatment showing the Malwa style at its most vigorous stage; the reflex curves of the arches are strong and spirited, the accessories, skilfully distributed and contrasting with the ample plain surfaces emphasize their elegant shapes, while the masonry of the whole is of a high standard. There is throughout this building a sense of vitality, implying the initial phase of a movement bringing with it fresh inspiration.

Probably the next structure to be erected at Chanderi was the Jami Masjid, which follows the Malwa tradition as expressed in the great mosque at Mandu, but at the same time displaying the first symptoms of an external influence. The Malwa characteristics may be seen in the shape of the three stilted domes, one over each bay of the sanctuary, and in the formation of the arches comprising the open facade. All this is according to type, yet on the other hand, the convoluted brackets supporting the eaves are elements abstracted from the regional temple architecture, and superimposed on, rather than blended with, the remainder of the composition. The introduction of these supports in a prominent position on the facade tends to weaken the appearance of what would otherwise be a building of some merit.

The two tombs at Chanderi, known as the Madrassa and the Shahzadi-ka-Rauza, which are of much the same architectural disposition as the mosque, show in the shape and construction of their arches and in their technical handling generally, that those who designed and executed these two buildings, whatever their origin, were experts in their art. The proportions of the arched verandah forming the exterior of the Madrassa are distinctly graceful while the interior treatment of the tomb chamber of the Shahzadi-ka-Rauza, although slightly heavy in places as for instance in the squinch arches of the angles, is sound and practical. (Plate XLV, Fig. 2.) The last example of the group at Chanderi, the Badal Mahall Gateway, appears to have been a triumphal archway, as it does not form part of any building, but stands alone (Plate XLVI, Fig. 2). It is a tall structure over fifty feet in height, but not altogether convincing on account of its unusual proportions, as the entire width is only some twenty-five feet, much of which space is taken up by two tapering buttresses of the characteristic Firuzian type, one on each side. Between these two supports is the archway in two stories, but the whole design is impaired by the introduction of passages of weak and meaningless ornament. It is not improbable that early in the seventeenth century there evolved a regional school of the building art, with its centre at Gwalior, which had imbibed elements from all the existing styles, such as Delhi, Malwa, Rajputana, and even Gujarat, and it was the disturbing effect of these varied influences on the Chanderi workmen, that were responsible for the bizarre character of the Badal Mahall Gateway

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Chapter XIII

THE DECCAN

GULBARGA, 1347-1422: BIDAR, 1422-1512: GOLCONDA, 1512-1687

IN the large tract of country towards the south of the peninsula known as the Deccan, corresponding approximately to the present dominions of H.E.H. the Nizam of Hyderabad, there was developed a style of Islamic architecture of a definitely regional character. It represents a form of the building art which began when this territory was first occupied by the Delhi Sultans in the last years of the thirteenth century, and continued until it was incorporated into the Mughul empire in the seventeenth century, a period of more than three hundred and fifty years. Within this region the architecture produced during the Moslem rule evolved in a manner rather different from that of the other independent provinces. It has been shown that hitherto the Moslem overlords in other parts of the country found it to their advantage to make full use of the indigenous talent prevailing in their dominions to aid them in carrying out any building schemes that they had in view, the result being a fusion of the original temple architecture with the building ideals of Islam. Contrasting with this system, the rulers of the Deccan seem to have ignored to a very large extent the presence of the existing art of the country they occupied, and proceeded to produce an original and independent style of their own. In spite of the Dravidian and Chalukyan temples of these parts being as elegant and numerous as in the other regions of the south, the dynasties of the Deccan took practically nothing from these fine buildings, and in no provincial style was less use made of the inherent architectural tradition.

The type of building that eventually emerged under the Deccani rulers, although of an apparently original character, was by no means spontaneously developed. In practice it consisted fundamentally of the fusion of two styles of Islamic architecture, both derived from other parts and both having arrived at a state of relative maturity. One of these was the architectural system that had been gradually forming under the Sultans at Delhi, which, owing to its forceful nature was influencing to a greater or lesser degree the provincial manifestations as they arose. The other style drawn from an entirely extraneous source, was the architecture of the neighbouring country of Persia. The contact of these two important architectural developments, and their final amalgamation in the building art of the Deccan, may be here explained.

The Delhi attribution was brought directly into the Deccan through Sultan Mohammed Tughlaq's forced migration in 1340 of the inhabitants of his capital on the Jumna to the proposed new seat of his dominions at Daulatabad. This exodus also carried with it the descendants of those masons and artisans who had been employed for generations in the production of the monuments and other buildings of the imperial city, and who, having now been compelled to settle in the new capital, naturally proceeded to carry on their crafts there. It was the architectural tradition these exiled Delhi workmen and their successors brought with them that laid the foundations of the Deccani style, and in spite of the fact that in the course of time owing to a variety of causes this Delhi tradition weakened, it was undoubtedly responsible for its fundamental character.

The other architectural current from the more distant source of Persia, although following a circuitous route, its appearance in the Deccan is also readily explained. It must be remembered that the Moslems who overran India in the early Middle Ages were migrants from Western Asia, comprising Persians, Mongols, Turks, and others drawn from the various races which constituted the mixed population of these parts. Owing to their origin it caused each community, even when permanently settled in India, to look instinctively towards the fatherland in the west for inspiration, and to regard their own country as the fountain head of all real knowledge, just as at a later date the rest of Europe turned to Italy and ancient Greece as the prime source of all classical culture. Of these countries of Hither Asia the influence of the powerful civilization of Persia is specially noticeable, its persistent and intermittent infiltration into India maintained for several centuries, having a marked effect on not a few of the institutions of the country. Moreover, intercourse at this time with the west, and in fact all over the then known world, was being accelerated, an effect mainly due to the rapid spread of the Moslem faith. India, hitherto somewhat isolated, was by these means becoming opened up, and people from other Islamic countries were finding their way in appreciable numbers to its capital cities, many of the immigrants being men of such superior accomplishments that they eventually attained high official positions. With these came military adventurers and engineers, artisans and other skilled workmen, most of them arriving in Arab ships from the Persian Gulf to the ports of western India which gave ready access to the Bahmani kingdom, so that even in its early days there was a relatively strong overseas element, mainly Persian, at the Deccan capital. And, to give this Iranian influence its initial impulse, the first independent ruler of the Deccan was a Persian adventurer from the court at Delhi, an official who had served under Mohammed Tughlaq, Ala-ud-din Hasan Bahman Shah, and who proceeded to establish the Bahmani dynasty at Gulbarga in 1347.

In some respects this architectural influence emanating from Persia took an unusual form. Instead of merging with the Indo-Islamic style and becoming Indianized, in several important instances buildings were erected in the Deccan, which were purely and inten-

tionally Iranian in their design and construction, so much so that some of them might have been transferred bodily from their native land. This is explained by the fact that those responsible for them were bent on reproducing buildings conforming closely to the style of their own country, that of Persia. On the other hand there is a long series of monuments which illustrate very graphically the manner in which the Deccani style of architecture gradually attained its final formation. These are the royal tombs of those who ruled from the capital cities of Gulbarga, Bidar, and Golconda, the kings of the Deccan, aggregating some thirty examples in all, their production extending over a period of more than three centuries. In the earliest type that of the Bahmani kings of Gulbarga, beginning with the founder of the dynasty Ala-ud-din who died in 1358, the tomb building is plainly a crude imitation of those of the early Tughlaqs at Delhi, with the familiar sloping walls and other characteristics of that style. Later, in the tombs of the Bahmani rulers of the fifteenth century at Bidar, it is possible to see the Persian elements combining with those from Delhi, notably in the proportions and shape of the dome, and also in the first signs of the constricted base of this feature above the octagonal drum. The concluding phase is shown in the tombs of the Barid dynasty at Bidar, but is even still more strikingly expressed in those of the Qutb Shah's at Golconda of the sixteenth and seventeenth centuries, where the bulbous or "Tartar" dome is fully developed, and the whole composition indicates the complete amalgamation of the various architectural forms derived from these two independent and widely separated sources.

In its broad aspect the course of the building art under Moslem rule in the Deccan, resolves itself into three periods, according to the particular capital city from which the country was administered. For on three separate occasions the seat of the government was changed. In 1347, the city of Gulbarga was founded, and the territory ruled by the Bahman dynasty from that capital. This represents the first period during which the foundations of the architectural style were laid. The second period begins when the capital was transferred in 1425 to the city of Bidar, from which centre the country was first ruled by the Bahman dynasty, and then by the Barid Shahi kings. Finally the power came into the hands of the Qutb Shahi Kings, who from 1512 governed the country from the city of Golconda, until in 1687 it was conquered by the Mughuls; this constitutes the third and last period.

But in the earliest days before independence had been established in the Deccan, there was a short pre-dynastic phase during the first half of the fourteenth century, when the buildings that the Moslem governors required for their purpose were improvised out of the existing temples. Representing this preliminary stage are two examples of note, one the Jami Masjid at Daulatabad, and the other Deval mosque at Bodhan (Nizamabad), near Hyderabad. The former is a large structure 260 feet square, planned in the orthodox manner, with the pillared sanctuary on the western side of its enclosure, and entrances in the middle of its east, north, and south sides. The sanctuary is five aisles deep and contains 106 pillars, but there is little originality in its composition, as the entire production is made up of materials from buildings found in its vicinity. The Masjid at Bodhan is an example of even less effort, as it is a star-shaped Jain temple in the Chalukyan-style of the ninth or tenth century, transformed by a few structural additions to do service as a mosque. Its conversion was brought about by filling in the openings on the western side with rubble, thus forming a sanctuary and *qibla* wall, by mounting brick domes on the flat roof, and furnishing it with mihrabs and a small pulpit.

The first period of architectural development of an original character began in the Deccan in 1347, when Ala-ud-din Bahman, having thrown off his allegiance to Delhi, established his capital at Gulbarga. This he made into a fortress-city, one of many which were maintained under both the Hindu and Moslem regimes when these isolated strongholds were as numerous in southern India as the feudal fortifications of France in the thirteenth and fourteenth centuries, and serving much the same purpose—for the defence of frontiers. Although the central and most important fortified city of the Bahmani kingdom, Gulbarga was only of a series of strongholds all of the first class, strategically disposed in order to guard the main approaches. Some of these, as for instance that of Daulatabad in the north-west, with its precipitous scarp, concentric walls, and devious tunnelled passage provided with an obstruction in the form of a heated iron chamber, besides being astonishing works of engineering were well nigh impregnable. Moreover each fortress seemed to possess certain outstanding structural features, often of considerable elegance, such as Raichur with its boldly simple Naurangi Darwaza, or "Nine Coloured Door," Narnala with its richly decorated Mahakali Gateway, Naldrug, having an imposing but graceful fluted bastion and water pavilion, Parendra with its picturesque but deadly bartizans, one and all of these Deccani strongholds were primarily devised for stern military purposes, although none the less there is usually something in their design that is architecturally beautiful. That in the technical aspect of these fortifications there is evidence of occidental influence is fairly clear, and there seems little doubt that artificers acquainted with western methods of military engineering took part in their construction. There are features that indicate that these were the handiwork of experts from Syria, who had derived their knowledge from those romantic "Frankish" castles of the Crusaders, such as the Krak des Chevaliers, or the grim fortresses of the Seljuks as in the citadel of Aleppo, all of which in the twelfth and thirteenth centuries lay within that region broadly defined as the Levant.

Little now remains of the fortress of Gulbarga beyond its outer shell, but there is sufficient to show that as an example of military architecture it was a most remarkable production. Not at all large in area as its perimeter measures less than two miles in circumference, on the other hand it was immensely strong, its double walls being fifty feet thick and it is surrounded by a

most scarped out of the living rock, in places thirty yards wide. As with all these forts there is no symmetry in its trace, which follows the irregular outline of the rocky outcrop forming its foundation. At close intervals, throughout the entire circuit of its walls, solid semi-circular bastions are projected, many of them provided with revolving platforms or barbettes for heavy ordnance. Battlements of gigantic size and cyclopean construction crown these defences, not infrequently a single stone ten feet square forming one merlon, with another roughly-hewn boulder equally ponderous placed across the embrasure to produce a loop-hole. Some of the battlements are even larger, being sufficiently substantial to contain an excavated chamber capable of accommodating two or three of the defenders, while others have machicolations and similar projecting devices for harassing attackers with molten missiles. There are two entrances to this fortress, the main gateway at the north-east angle being a most formidable approach. It begins with a drawbridge and a heavily spiked postern, leading into a wide but tortuous passage winding its way through several strong gates, each protected by high watch towers until it eventually reaches the fort enclosure.

Within the space surrounded by these immense ramparts, the pavilions, palaces, and kingly halls it once contained are now mere mounds of desolation. The one building that has been preserved, protected by its sacred character, stands curiously isolated in the midst of a scene of devastating emptiness. This is the Jami Masjid one of the most interesting Islamic monuments in Southern India. (Plate XLVII.) Completed, according to an inscription, in 1367, it is a rare example in India of a mosque with no open courtyard, as the whole structure is entirely covered in by a roof, so that it forms a class by itself. Some of the originality of its design and construction may be due to the act that it was produced under the direction of a hereditary architect named Rafi, not of India, but from the distant town of Kazvin in northern Persia. It is possible that this talented descendant of a noted family of architects evolved the scheme of this mosque from his inner consciousness, that its unusual conformation was the result of his own genius. On the other hand, owing to its covered character which is directly contrary to Islamic usage, he may have looked to the occident for his inspiration, and that at the back of his mind was some idea of a domed and vaulted hall of the basilica type, an occasional form of Moslem religious edifice in some of the countries of eastern Europe.

In its architectural style the mosque at Gulbarga cannot be identified as either Persian or Indian, but it may also be that elements from both sources have been so subtly amalgamated as to be indistinguishable. Measuring on plan 216 feet by 176 feet, around the three sides of this rectangle are wide cloisters, while at the western end is the spacious nave of the sanctuary under a high dome. So far the scheme is but little removed from the orthodox, but when it is realised that the extensive central area ordinarily open to the sky is completely filled in by rows of aisles forming sixty-eight bays each roofed over by a cupola, thus converting the whole into one vast pillared hall, the originality of the conception will be understood. But the total composition of this mosque is not only original feature, its various parts are also notable for their innovatory character. Externally, the appearance of the main dome is presented with additional height and stateliness by being mounted on a lofty and substantial square clerestory, its spherical volume being repeated to a lesser scale in the lower cupolas over each angle. Then the interior construction of this central dome has also been logically and artistically effected, as it is supported on the clerestory by means of squinches, some of the arches of these being of a gracefully foliated order. Other constructional systems have been employed in the ceilings of the aisles, such as oversailing courses of masonry, and another method for producing the vaulting over the wide arches of the cloisters, all implying long experience and ripe technical knowledge. But undoubtedly the most remarkable formation in the interior of this mosque is the treatment of the cloisters, which instead of consisting of pillared aisles as in almost every other example are formed of a range of single archways of an extremely wide span and with unusually low imposts, creating an uncommon but not altogether unpleasing effect.

The exterior appearance of the Jami Masjid at Gulbarga is that of a grave and restrained massiveness, there is mass in its expansive plain surfaces, as well as in the spaces of the archways of its enclosing walls. Its stilted dome, poised above the square substructure, although also an affair of mass, has that light and aerial effect which is the result of strong yet refined contours and excellent proportions. In the middle of the northern side is the main entrance, a lofty archway, breaking the otherwise austere symmetry of the whole in a masterly manner. Passing through the receding arches of this doorway the interior opens out into a perspective of square bays traversing in both directions, their solid piers and vaulted ceilings, conveying the impression of harmonious and solemn dignity. There may be something almost unreal in the abnormally wide arcades of the cloisters, their construction is bold and almost daring, but the entire composition is powerfully original. Yet in its entirety it has no outstanding aesthetic qualities, it is more an expression of intellectual greatness than of artistic beauty. That it was a production of power is shown by the influence it had on the Deccani style of architecture, as many of its parts were reproduced in the subsequent mosques and tombs. For instance the clerestory supporting the dome became a feature of the building art in these parts, while the wide span and low imposts of the cloister arches figured as the keynote to many of the later monuments. (Plate XLVII, Fig. 2.)

Although the composition of this mosque has much to commend it, as it certainly presents advantages over the customary open variety, it found no favour in India, and was never repeated. The main reason is that such a design is unorthodox, it is not in accordance with tradition, a decision which, among the Faithful, is



Fig. 1 Jaunpur. Bridge over River Gumti (1564-8)



Fig. 2 Delhi. Mihrab, Qil'a-i-Kuhna Masjid (c. 1545)





final. Nevertheless it may have been responsible to some extent for the planning of two mosques in Delhi produced shortly afterwards, during the reign of Firuz Tughlaq, as the Kali masjid (1370), and the Khirki mosque (1375), are both largely covered in. (Plate XII, Fig. 1. Chapter IV). In these two mosques however a compromise has been effected by carrying a cruciform arrangement of aisles across the central space, leaving open courtyards between, a measure which meets the chief objections raised against the entirely closed example at Gulbarga.

The remaining monuments of Gulbarga illustrating the Bahmani period are the royal tombs of these rulers, seven in number and are in two separate groups, their construction covering a period of nearly half a century. The earliest of these, that of the founder of the dynasty, has been already referred to as a comparatively small and simple memorial to one who was little more than a successful adventurer, and who died in 1358 before either the kingdom or the architectural style representing it had actually begun to take form. With its battering walls, sunken archways, heavy battlemented parapet, fluted corner finials and low dome, this somewhat primitive structure shows its derivation from a type of tomb erected during the rule of the early Tughlaqs at Delhi. Two other tombs of this group, also attributed to Bahmani kings are both in much the same style as the preceding, except that presumed to be of Mohammed Shah II who died in 1397, the dome of which is slightly raised at its base indicating that the influence of the stilted dome, as it appears in the fort mosque, was already beginning to take effect.

The other group of Bahmani tombs, known as the Haft Gumbaz or "Seven Domes" contains memorials of four kings of this dynasty, the earliest being that of Mujahid Bahman, who died in 1378, a building showing the same Tughlaqian characteristics as the previous group, but rather larger in size Three of the tombs forming the Haft Gumbaz group are also not dissimilar in architectural style from that of Mujahid, but these are exceptional in another respect, as they represent a structural arrangement not found elsewhere. This consisted in building the tomb in a double form of two mortuary chambers conjoined, the one containing the cenotaph of the king and the other those of his family. Of this double variety of mausoleum the finest example is that of Taj-ud-din Firuz the last of the Bahmani line who ruled from Gulbarga, and who died in 1422. A large and imposing monument it marks a considerable advance in tomb architecture on anything that had preceded it in the Deccan, for it is recorded that he was a ruler who excelled all his predecessors in power and magnificence and his mausoleum is eloquent proof of his personal pre-eminence. In its architectural character this building is an elaborated development of its Tughlaqian archetype, with certain original features added due to its changed environment. It measures externally 158 feet by 78 feet and the height of its walls including the parapet is nearly 42 feet, above which the two equal hemispherical domes rise 30 feet. Its elevational aspects is in two stories, each consisting of an arcade of recessed arches, some ornamented with perforated screens. Over the parapet are foliated merlons, and there is a short fluted finial at each corner while the drum of the dome is encircled with foliations. In the interior, the walls of each square mortuary chamber are divided up into two stories of arcading, the corner arch in the upper story being carried across the angle of the chamber, to form a squinch for the support of the fluted and highly decorated dome. Both the principle on which these interiors are constructed as well as the character of the rich plastic ornamentation, are singularly reminiscent of those of Firuz Tughlaq's tomb at Delhi erected some thirty years earlier.

The Second Period of the Deccani style of architecture was initiated by Ahmad Shah (1422-36), the ninth ruler of the Bahmani dynasty when, in 1425, he transferred the capital of his kingdom from Gulbarga to Bidar. A change of capital gave an impetus to the building art. The chief architectural productions representing the later Bahmani regime as this prevailed at Bidar, consist of the fortress and its palaces, two mosques within the fort, a *madrassa* or college, and the royal tombs. The fortress at Bidar is rather larger in area than that at Gulbarga, and is even more remarkable in some of its constructional features, but it is built on much the same system and general principles. Unlike the earlier Bahmani capital, however, which has been almost completely denuded of its interior arrangements, the palaces and other edifices contained within the walls of Bidar, although woefully ruined are still recognizable, and in some degree their purpose and style may be determined. As with most of these fortress-cities their imperial buildings are chiefly composed of a number of *mahalls* or palaces named either after some characteristic of their design or the use to which they are put, as in this instance there is a Rangin Mahall or Painted Palace, a large and magnificent structure so designated because of its coloured decoration, and there was another fine edifice called the Zenana Mahall which explains itself. With these were also the Takht Mahall or Throne Room, otherwise the Durbar Hall and a Dewani-Am or Hall of Public Audience, besides numerous other palatial buildings each having its particular object and planned and decorated accordingly. Running water was an essential amenity so that there were Water Palaces, tanks and fountains besides ornamental gardens and *hammams*, the last being bathing establishments of a large and luxurious kind.

From the shattered remains of the palace buildings it is evident that as there was no actual tradition for such edifices, those who executed them had to look elsewhere for guidance, and they naturally turned to Persia. Thus the substantive style of architecture in nearly every instance was what may be defined as a variety of provincialized Persian, as each structure was composed very largely of forms borrowed from the building art as it prevailed in that country, but modified and adapted to suit the taste and needs of the Indian court And as the chief characteristic of Persian architecture was colour liberally applied over surfaces specially prepared for its reception, so these palaces at

Bidar appear to have depended for their effect on brilliant schemes of mural painting and coloured tiles. The latter process of decoration is well illustrated by some of the tile-work panels in the Rangin Mahall where there are arabesque patterns composed of glazed mosaics almost certainly imported direct from the kilns of that famous seat of this industry, the town of Kashan in northern Persia.

Turning from these palace buildings to the two principal mosques at Bidar, the difference in treatment of the two types of structures, the secular and the religious, is striking, for whereas the former are fanciful in their style and vivacious in their appearance, the latter are plain and sombre almost to austerity. The two forms of architecture reflect the contrast between the colourful pageantry of the court and the simple solemnity of the creed. These two mosques are the Jami masjid, and what is now known as the Sola Khumba, or "Sixteen Pillars," a name referring to the number of columns visible in its façade. Both are in the same sedate and unaffected style as that of the covered mosque at Gulbarga, but in both instances the buildings of the Bidar examples have returned to the orthodox plan of an open courtyard, pillared sanctuary, and nave surmounted by a dome. In the Sola Khumba mosque this dome is raised on a fairly tall sixteen-sided drum pierced with arched openings, an elaboration which adds considerably to the lightness of the effect.

But a building at Bidar so exotic in character as to be phenomenal, is the Madrassa, or College, founded in 1472 by one who figured prominently in the annals of the Bahmani dynasty, Mahmud Gawan, the minister of Mohammed Shah III. (Plate XLVIII, Fig. 2.) This scholarly Persian, in his rise, influence, and tragic end was the Cardinal Wolsey of the Deccan his life and experiences being not unlike those of the famous English statesman-prelate. As a patron of learning he established this academic institution in the country of his exile, reproducing a building similar in every respect to that in which he had received his own scholastic training in his native land. It is quite clear that to put this plan into effect he must have imported not only the workmen but even the essential building materials to achieve his purpose, so that there arose in Bidar a piece of Persia in India, a conception planted down in the Deccan capital without any appreciable modifications being made to adapt it to its new environment. Here was an Islamia College, complete with lecture halls, library, mosque, and ample accommodation for both professors and students, in an architectural style resembling in every particular those stately university buildings which adorn several Persian cities, in short it might have been moved bodily from the Rijistan at Samarkand.

In spite of being seriously damaged by subsequent vicissitudes the plan and arrangements of this college are quite clear Covering a rectangular space of 205 feet by 180 feet, it has the conventional quadrangle in the centre, out of which open the halls and chambers which surrounded it on its four sides. Exteriorly in the middle of three of these sides are prominent semi-octagonal projections rising up to a considerable height and surmounted by "Tartar" domes, while the fourth side, which is the main facade, contains the entrance, and has two tall minars in three stages, one at each corner. Most of this exterior elevation is in three stories of arched window openings, and there is a wide parapet over all, but, true to the Persian tradition, the building does not rely, as do most architectural styles, on its composition of lines and forms, or in the variety and distribution of its solids and voids, or play of light and shade, but depends almost entirely on its surface treatment for effect, and for which its walls are specially prepared.

This surface treatment is composed wholly of colour produced by brilliantly glazed titles, every part of the facade being overlaid with patterns obtained by this method. Schemes in combinations of green, yellow, and white predominate, chiefly in the form of floral devices or conventional arabesques, but much use was made of decorative inscriptions, some of the lettering on the broad parapet, evidently written by expert calligraphists in a bold but exquisitely graceful manner, being over three feet high. It is interesting to note that in the foundations of the buildings sheets of lead were interposed between the masonry courses in an effort to prevent damp from injuring the delicate glaze of the tiles, but in spite of such precautions, only a faded impression of its intense colour scheme now remains. As with all buildings of this order its execution furnishes an admirable example of the inversion of the true principles of the building art, for instead of the decoration being subordinate to the construction it dominates it, and so what is produced is not primarily architecture but a background or framework provided by its builders for a display of applied art.

Before the construction of Mahmud Gawan's madrassa was even contemplated, however, a building also in an alien style was being erected, not a Bidar in this instance, but at Daulatabad, at the foot of the celebrated fortress there. This is a very fine minar built in 1435, at a time when the minar, except in the form of a tower of victory, was only just beginning to make its appearance in the mosque architecture of the country. The general shape of this particular example testifies to a still more distant source than the *madrassa* described above—that of the Tigris and the gilt domes of Baghdad, from whence its builders may have originated. On the other hand it is not purely exotic, there are certain features of an indigenous character such as the brackets supporting the balconies and other details, but in effect the design of this minar is unlike that of any other of its kind in India Rising up a hundred feet in height into four stories each circular in section except for one of its stages which is fluted, it is altogether a graceful conception, slender but stable, and exceedingly well balanced.

Of all the monuments at Bidar, those most genuinely expressive of the Bahmani dynasty are the tombs of these rulers, as although they bear the impress of the various art currents which found their way into the

country at this time, as a whole they represent the rational development of the Deccani style. These royal tombs are twelve in number, all very much of the same type, which is an elaboration of the earlier examples of the dynasty at Gulbarga. None of them is of the double kind as this practice, it may be noticed, although having much to commend it, was in favour for a very short time, each tomb at Bidar being a large square single building, with tiers of arched arcades round its vertical walls, and having a battlemented parapet and turret at each corner. Above rises an octagonal drum on which stands a massive dome, not hemispherical as in all the previous tomb architecture, but stilted an improvement both in profile and volume, qualities acquired from the high dome of the Gulbarga mosque. But in addition to the elevation at the base, there are indications of another change in the shape of certain domes of the Bahmani tombs, which is of some significance. This takes the form of a slight constriction in the lower contour, an inward return of its curve and therefore displaying the first symptom of the movement towards the bulbous or so-called "Tartar" type of dome, which was afterwards to become almost universal in the later architecture of the country. The interior arrangements and construction of these tombs are similar to those of the Bahmani rulers at Gulbarga, but the Persian-influence, also potent at this time in other directions, shows itself in the remains of their superb coloured tile-work, notably in that of Ala-ud-din Bahman (died 1458), where there are arabesque patterns equalling in beauty of design those of a sixteenth century Persian carpet.

The development of tomb architecture in the Deccan was continued under the Barid dynasty, whose rule at Bidar prevailed from 1487 to 1619. The tombs of these kings form a royal necropolis to the west of the city, and each building shows how the individual taste of the rulers, who were of Turkish origin, affected its style. The finest of the series is that of Ali Barid, the third of the line who died in 1579, which, instead of being a closed building as in all the examples of the previous dynasty, is an open structure, with a large archway in each of its four sides, through which the cenotaph carved in black basalt is visible. As for its architectural composition this is simplicity itself, although there is a certain elaboration in the treatment of the dome, which by now is beginning to show plainly the bulbous form already referred to. But the style is reverting to the determinate ideal of the Persian builders that the structural formation should, in the main, provide a suitable foundation on which to impose a scheme of coloured tile-work, so that the tomb is designed very largely with this object in view Such a conception also made it easy to introduce into the surface decoration long bands of inscriptions containing couplets, personal eulogies, and sacred extracts, in either the Kufic, Tughra or Nashki scripts, a form of lettering which for ornamental purposes has no equal.

The third and final place of the Deccani style was that which flourished in the kingdom of Golconda, where, under the Qutb Shahi dynasty, a rich and powerful state was maintained from 1512 until 1687. There are many examples of the architecture of this period distributed throughout the eastern portion of the Deccan, but the most characteristic are those in and near the ruined and deserted city of Golconda, and also in Hyderabad, the capital of the H. E. H. Nizam's dominions. Within the walls of Golconda which was fortified in much the same manner as Gulbarga and Bidar although larger and more impregnable, there are the remains of a concentration of buildings of an imperial order, but mainly owing to the long drawn out siege sustained by this stronghold in 1687, when it finally surrendered to the Mughul emperor Aurangzebe, all are in a state of decay. For more complete representations of the style of building associated with the rule of the Qutb Shahi kings, one must turn to the tombs of that dynasty, which are situated to the north west of the city. These monuments include some seven royal tombs, while there are others in the vicinity commemorating members of the ruling family and other important personages, the entire group providing an excellent series of examples representing this form of the building art, as well as giving a good general impression of the style as a whole.

All these Qutb Shahi tombs are of much the same type of design, which is based on that of the Bahmani tombs at Bidar, but with the addition of many architectural and decorative elements chiefly of a florid order, and it is these elaborations introduced not as an essential part of the composition but for their own sake, that give the style its character. The nearest historical parallel to the buildings of the Deccan at this stage, is the change that took place in France between the artistic productions of the early Louis XIV period and those of Louis XV when the classical formality of the former merged into the flamboyant curves and extravagant foliations of the latter. In the same manner the tombs of the Qutb Shahis, besides displaying an increased use of involuted moulded patterns, much of the ornament is in stucco of a meretricious kind, enfeebling the outlines of the building and confusing its surfaces. Gone is the measured stateliness and disciplined repose of the earlier phase, that feeling of tranquil strength which harmonized so thoroughly with the intention of the building, and in place of such fine qualities are richly moulded but fanciful pinnacles and flimsy battlements with other purposeless embellishment of a like nature. In keeping with these features the dome by this time has become expanded into a full-blown bulbous creation with the addition of a calyx formation of a massive plastic order at its base. Some of the Golconda tombs are in two stories the lower portion being extended by means of an arcaded verandah, and certain effectiveness is obtained by cornices projected on brackets. In the interior, owing to the size and especially the increased height of the dome it was found necessary to cover over the mortuary chamber at a suitable height with a curved ceiling, leaving the interior of the dome above as a great unused void, a structural system not exactly of double doming as was now being practised in northern India by the Mughals, but an expedient with much the same object in view.

One of the most characteristic of these royal tombs is that of Abdullah Qutb Shah, who died in 1672, an immense two storied monument, its upper portion surrounded by a hanging balcony, elaborated with perforated panels, merlons, and numerous finials. A more compact and restrained design, probably so on account of its earlier date is that of Mohammed Quli Qutb Shah (dec. 1612). Besides the large number of tombs there are also several mosques in the same neighbourhood, including those in the city of Hyderabad itself, most of them of the seventeenth century, such as the Jami masjid, the Mecca mosque, the Mushirabad mosque, and a small but very finished example known as the Toli masjid (1671). Unquestionably the building of the Qutb Shahi period at the existing capital of the Nizam's dominions, which presents the most real architectural value is neither a mosque nor a tomb, but a monumental structure erected in 1591, as a form of triumphal archway, and now called the Char Minar, or Four Minars. (Plate XLVIII, Fig. 1.) In position and appearance it seems to have served the same purpose as the Tin Darwaza, or "Triple Gateway" built at a much earlier date in the city of Ahmedabad, Gujarat. The Char Minar is a composition of considerable size as its square plan measures 100 feet side, and the four minars, one at each corner are each 186 feet in height. Its ground story consists of four spreading archways, one in each side and each of 36 feet span, over which rise a series of diminishing stories beginning with a substantial arcaded triforium, and having a smaller arcade and a perforated balustrade above.

There is a certain aesthetic excellence in the conception of this grand archway, it has strength without being aggressive, is dignified yet spirited, while its upper structure displays a graceful inventiveness. Especially noteworthy are the minars, which in lightly leaping stages provide that soaring trend so essential in a building of such a nature. At the same time throughout its entire composition, there are evidences of that showily attractive character which pervades the buildings of this period, a superfluous application of detail, and in elaboration of its parts not altogether conducive to breadth of effect. There were buildings produced in the Deccan after the erection of the Char Minar, but none attained the superior appearance of this, the leading example of the style.

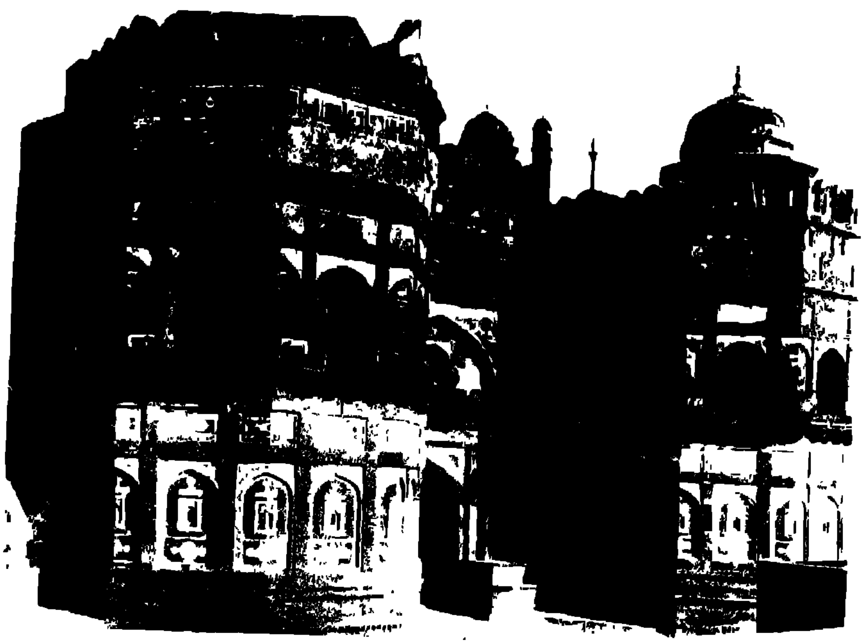
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Annual Reports of the Archaeological Department of H. E. H. the Nizam's Dominions.

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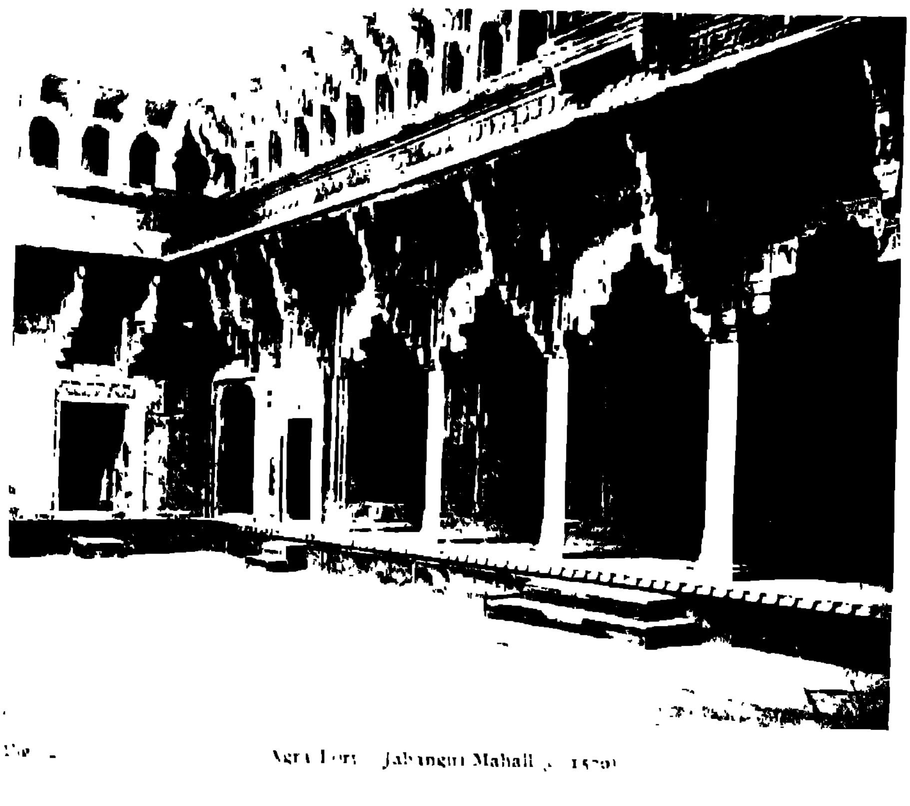
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[illegible] Interior of Northern Hall



[illegible] Agra Fort : Jahangiri Mahall (c. 1570)



Fig. 1 Lahore Fort [illegible]



Fig. 2 Delhi Fort: Lahori Gate [illegible]

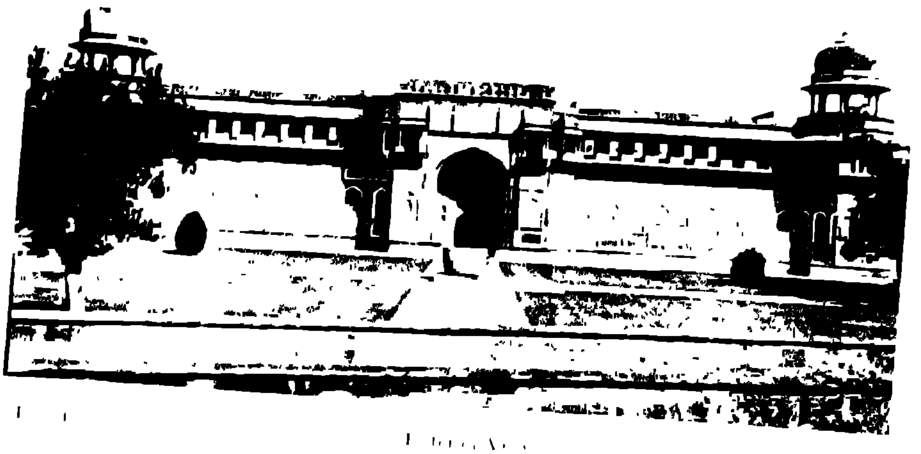






Fig. 1 [illegible]

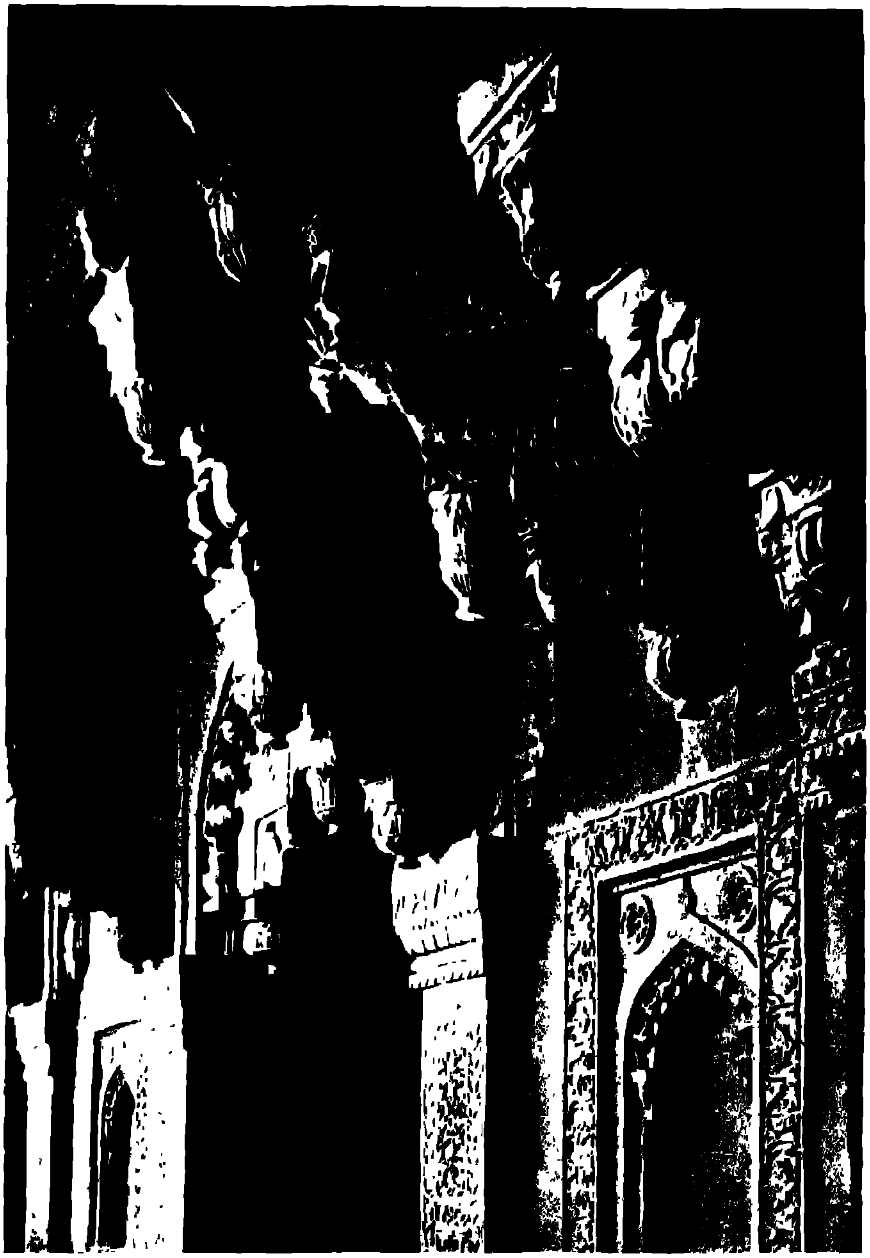


Fig. 2 [illegible]

Fatehpur Sikri



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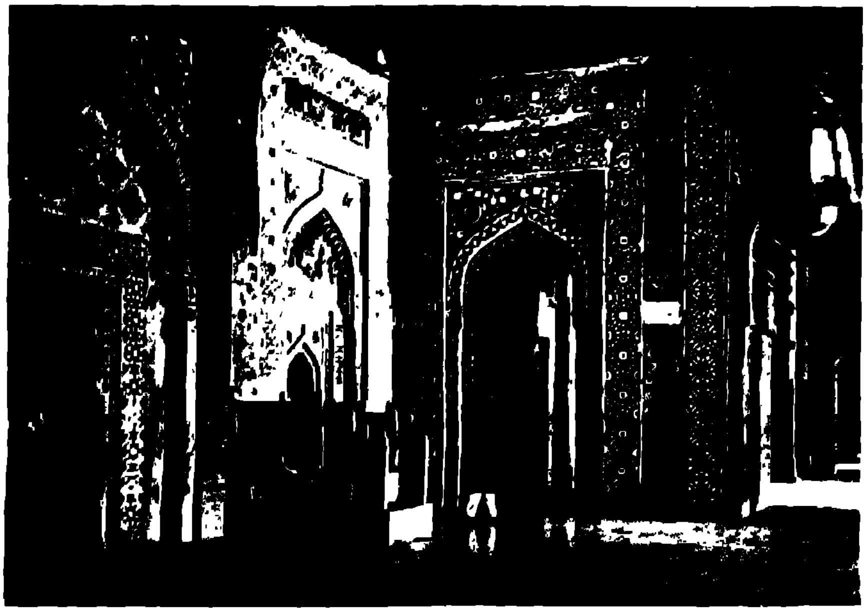


Fig. 1 Jami Masjid: Interior of Sanctuary

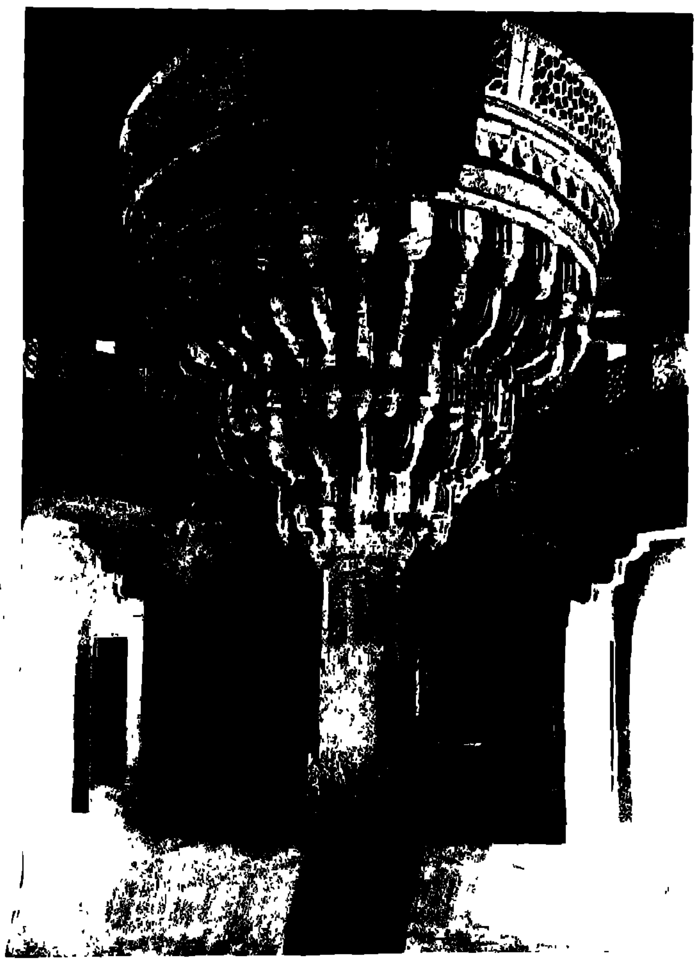


Fig. 2 Diwan-i-Khas: central pillar
Fatehpur Sikri c. 1570-80

Chapter XIV

PROVINCIAL STYLE

BIJAPUR (16th and 17th centuries) : KHANDESH (15th and 16th centuries).

A comparison between the buildings of Golconda and the provincial style of Bijapur will show how vitally the building art in India depended on the quality and direction of the patronage of the ruling dynasty. The course and development of these two mediæval kingdoms of the Deccan were remarkably analogous. Both had the same origin, as they broke away from the Bahmani rule at the same time—1490 ; both proceeded to become dominant powers in the southern country, flourishing contemporaneously in the sixteenth and seventeenth centuries ; both were governed by enlightened rulers who gave encouragement to intellectual pursuits, and both kingdoms came to an end at the same time, being incorporated into the Mughal empire in 1686-87. The style of building which found favour in these two countries reached them through the productions of the Bahmani rulers at Bidar of the fourteenth and fifteenth centuries, yet the contrast between the architectural achievements of the two powers is instructive. For at Golconda, as already shown, in spite of a dynasty of cultivated rulers, the building art they had inherited, under their hands lost itself in the production of a type of structure of uninspiring appearance and excessive in detail, while at Bijapur under outwardly similar conditions, the art immediately proceeded to find itself and to develop into the most aesthetically and constructionally competent manifestation of architecture in the whole of the Deccan.

Such a disparate result as testified by the buildings in these adjacent kingdoms was brought about by a divergence in the cultural ideals of the two ruling dynasties. On the one hand the Qutb Shahis of Golconda distributed their patronage into a variety of intellectual channels, while on the other the Adil Shahis of Bijapur concentrated their energies almost exclusively on architecture and the allied arts, each member of the dynasty endeavouring to excel his predecessors in the number, size, or splendour of his building projects. Moreover the Adil Shahis succeeded in imbuing their subjects with the same structural ardour, the consequence being that in few cities in India is their a more profuse display of fine building than in Bijapur ; for within the relatively limited area of this capital there are the remains of scores of structures many of first class importance and high artistic excellence, and all possessing a notable measure of architectural merit. These buildings are of three kinds—mosques, tombs, and palaces, the first predominating as they amount to over fifty examples, with more than twenty tombs, and nearly the same number of palaces or *mahalls*

Unlike many of the larger cities of the Deccan, Bijapur does not dominate the surrounding country from an eminence, but stands without any natural protection on gently rising ground situated towards the centre of the territory it administer. Building operations on this site began during the first half of the sixteenth century, by the construction of the citadel, a fortress irregularly circular in plan, and containing a palace, imperial buildings, and two small mosques prepared from despoiled temples. As the power of the Adil Shahis increased, around the citadel a city gradually formed, and in the course of time was enclosed within strongly fortified walls, which were completed about 1565. The trace of these city walls is also an irregular circle over six miles in circumference, and from the citadel in the centre roads radiate to the six city gates, but they follow no direct alignment, nor does there seem to have been any serious attempt at systematic town-planning. At the beginning of the seventeenth century, when the Adil Shahi dynasty was in its prime, expansion became necessary and so the suburbs of Shahapur on the north and Ainapur on the east arose, each containing a few monuments but none of any special importance. The principal extension however, developed on the west, where Ibrahim II (1580-1627) founded a second and larger city calling it Nauraspur, connecting it with the capital by means of a wide thoroughfare, but early in its construction it was abandoned, and except for the remains of two palaces within its partly finished walls, it contains no buildings of note. It is within the walled area of the original city therefore that, with one or two exceptions, all the more important buildings are situated ; and the period during which the style reached its zenith was the first half of the seventeenth century, an era corresponding to the Elizabethan age in England, and also to the golden reign of Shah Abbas of the Safavid dynasty in Persia. Bijapur is now a deserted ruin its spirit having been broken in 1686 when the city unconditionally surrendered to the Mughuls, but it was not until nearly a century later than the capital began to fall into a state of decay. Its demolition was hastened by the marauding forces of the Marathas, who stripped its buildings of all available materials, and it was after this act of spoilation that the disintegrating process of time brought about its desolation. In spite of the substantial remains of its architectural greatness, the general appearance of the city is not aesthetically inspiring mainly owing to the dull brown monochrome of the local basalt, of which stone all its monuments are built Now deprived of that rich pageantry and imperial splendour which formed the exuberant life of this powerful kingdom, with its population once in thousands now reduced to a few hundreds, such a monotony of effect emphasises the sombre melancholy of Bijapur's dead glories

The Adil Shahi kings of Bijapur professed to be of Turkish origin and accordingly the symbol of the crescent is borne on the finials of their largest monuments,

but the actual style of their architecture shows few, if any direct attributions from this source. As already explained their building art was developed out of the earlier productions of the Bahmani rule in the Deccan, but on the other hand the Bijapur masons displayed in some of their technique such ripe experience that could only have been acquired from contact with other and still older schools, which may have been Ottoman. There are certain characteristics in the fully matured architecture of Bijapur which are unmistakable. Chief among these is that all-important feature the dome, which, in buildings of average proportions, is almost spherical in shape, and rises out of a band of conventional petals at its base. These forms were repeated to a small scale as an ornamental finish to the turrets, also prominent elements in the style and which surmount the principal angles of the building like slender minarets. The shape of the arch, too, is distinctive, it has lost the angularity and forced ogee outline of its Bahmani prototype, and assumed contours of more suavity and grace. Evidences of the expressive low impost in the archways, derived also from Gulbarga, are still observable, but this feature in the course of its transfer has been converted into a form of considerable shapeliness. The typical Bijapur arch is of the four-centred variety, not unlike that of the Tudor Gothic, but fuller in its curve. In common with all the Deccani styles, largely owing to the design and manner of construction, the pillar is rare in the architecture of Bijapur, its place being taken by substantial masonry piers, usually rectangular in section. Finally, there is the cornice, or *chajja*, a characteristic architectural ornament in most of the buildings, remarkable for its size and projection and for the closely ranked decorated brackets by which it is supported.

Such are the more conspicuous architectural components of the style, but the sculptured patterns which embellish these elements are most of them so individual in character, that they constitute a definite school of plastic art. Originally handed down from the earlier Deccani examples, in spirit as well as in substance this ornamentation is similar to that found in other manifestations of Islamic art, but it also includes motifs of an unusual and original kind. Among these is one very prominent pattern in the arch spandrils, consisting of a voluted bracket holding a medallion, and above the arch a foliated finial all singularly graceful; with this typical design are also rosettes, conventional hanging lamps, running borders, and interlaced symbols either carved in stone or moulded in stucco. It is possible to trace some of these carved motifs back and to identify them with the glazed tile decoration in the Bahmani buildings, the brush-forms of which, adapted in the first instance to suit the technique of the chisel, were afterwards still further developed and enriched by the imaginative mind and skilled handling of the Bijapur craftsmen.

While the entire period of the Adil Shahi ascendancy lasted for less than two hundred years, its architectural history may be actually compressed within one century. During such a limited time there was little real development in the style; as it first appeared so it continued, beginning with a plain and simple type of building, which gradually became more ornate, but with no vital changes in its structural formation. There was also no noticeable decline in the art, its high character was maintained throughout, the end came not from decay, but by the production ceasing abruptly owing to the fall of the dynasty. To illustrate the architecture of Bijapur therefore, out of the bewildering complex of buildings comprising this now deserted capital, a selection of four typical examples will be made, which represent the building art in its most significant aspects. These are the Jami Masjid, one of the earliest monuments to be constructed and therefore the most powerfully simple; the Ibrahim Rauza, one of the most elaborate; the Gol Gumbaz, showing the style in its most grandiose form, and the Mihtar Mahall, depicting it in its miniature and at the same time its most refined and delicate manner. Reference will also be made to some of the palaces and public buildings to show the method of treatment in structures for secular purposes.

The first building of note was the Jami Masjid, built at the beginning of the Adil Shahi's tenure of power by Ali Shah I (1558-80), and which is considered to be the finest example of Bijapur architecture in its more restrained and classical mood. (Plate XLIX). Also, because it is an early example it displays most plainly the connection of the style with that of the Bahmani period of the previous century. Unfortunately it was never fully completed, as it still lacks two minars which were intended to flank the front of its eastern exterior, the whole of this part being left unfinished. An entrance gateway was provided later by the Mughal emperor Aurangzebe in the seventeenth century, more or less in the same style as the rest of the building, but even with this addition, the composition remains incomplete. It is also clear that certain other features are missing, as for instance the ornamental merlons above the parapet around the courtyard, a deficiency which although relatively small, detracts in a degree from the general effect. None the less, even with these shortcomings this mosque presents an imposing appearance and is a noble example of the builder's art. It is a large structure, as its plan forms a rectangle 450 feet by 225 feet, and the immense pile forming its exterior has been treated by its designer who must have possessed great originality and resources, in an exceptionally independent manner. Always a difficulty in mosque construction, the containing walls of these buildings offer a considerable area of plain masonry, inviting some appropriate architectural rendering to relieve the monotony of their unbroken surfaces. In this instance the problem has been solved by the introduction of two rows of arcades within the walling, one above the other, the lower being merely ornamental, but the upper row is open and discloses an arched corridor resembling a loggia, running the whole length of the back and sides of the exterior.

The courtyard within this mosque, which is a square of 155 feet side, is contained on three sides by a superb range of arches, seven on each side, those at the western end with the central opening emphasized by foliations,

forming the facade of the sanctuary. Over these facade arches projects a wide and deep cornice on brackets, and above the middle of the sanctuary rises the square arcaded clerestory supporting the great dome. It is from this point of view that the stylistic connection with the Bahmani mode is observable specially in the treatment of the dome and its substructure, and its development from the same formations in the mosque within the fort at Gulbarga. An interval of exactly two centuries separates these two fine buildings, and the advance in architectural ideals and experience as shown by the Bijapur example is noteworthy. A comparison between the dominating portions of each composition may indicate what has taken place. In the grand volume of the Bahmani superstructure, unrelieved by any detail, there is something simple and sincere, no "stately pleasure dome" is this, but one that expresses solemn exaltation, it has a sweep, a freshness implying the determination of a first effort. On the other hand, the Adil Shahi conception, although built on much the same constructional principles, has been designed to produce a very different effect. While it retains all of the intellectual power and dignity of its predecessor, yet there is that in the sober and massive elegance of its forms and outlines which not only stirs the emotions but also makes a direct appeal to the aesthetic senses. These additional qualities were obtained by the judicious application of appropriate architectural embellishments both to the clerestory and to the dome, and by the more refined shaping of the dome itself. In the case of the clerestory these elaborations took the form of an arcaded fenestration around its sides, and a more pronounced system of merlons over the parapets, while the dome was enriched by bold foliations at its juncture with the drum. The dome is no longer stilted but is hemispherical in contour, its apex rising up into a massive metal finial crowned by the symbol of the crescent.

The interior of the sanctuary of this mosque presents an impressive but unpretentious appearance mainly owing to its quality of simple spaciousness. It consists of a large hall 208 feet by 107 feet divided into five aisles by means of arches on substantial masonry piers. The nave in the centre is a square compartment of seventy-six feet diameter and contained within twelve arches, three on each side These arches intersect above thus producing an octagonal cornice for the support of the base of the dome. Around this central space are the bays of the aisles, each occupying a square, with the ceiling of each constructed on the same principle as the nave but in a modified form to suit their smaller size. The surface treatment of this interior is broad and restrained and similar in character to that of the exterior any plastic decoration that has been introduced into the scheme being of an architectonic order, and more for the purposes of accentuating a line or space than for actual embellishment. At a later date a different ornamental note has been interposed, but confined only to the central archway containing the principal mihrab. This consists of an elaborate mural design in relief and brilliant colour, which although a work of some merit is slightly incongruous, and does not add to the beauty of the structure. The sanctuary of this mosque is essentially a conception of simplicity and dignity, complete in itself and independent of any overlay of applied art.

The second building selected to illustrate the style is that known as the Ibrahim Rauza, a mausoleum situated just outside the city walls on the west. (Plate L). Built to the order of Ibrahim Adil Shah I (1580-1627) as this ruler's last resting place, the *rauza* consists of two main buildings, a tomb and a mosque with certain accessories all standing within a square enclosure, the whole forming an attractive garden retreat. From the elaborate workmanship of this conception, it seems clear that the ruler stipulated that it should be not only the most ornate but also the most perfect of its kind, and most faithfully did those entrusted with this task carry out the royal command, for, as an example of unstinting technical care and skilled artistry this building has few equals. It is by no mean a large composition, as it was wisely foreseen that any structure of such an elaborate nature if executed to a large scale would most likely never be finished; the entire enclosure, therefore, is only 450 feet square, while the tomb building within, which is also square, is but 115 feet side. The whole work was however carried out with an eye to completeness, for every part, whether structural, technical, ornamental, or merely utilitarian appears to have been thought out and provided for in a most meticulous manner before even a stone was placed in position. From the accuracy of the inscriptions carved on its walls, to the size and position of the stone hooks in the stables, each item seems to have received its due share of expert consideration with the result that in addition to its remarkable aesthetic qualities, as an example of man's handiwork, this building approaches perfection as near as is humanly possible. Within the walled enclosure the two principal buildings stand on an oblong terrace 360 feet long by 150 feet wide, at the eastern end of which is the tomb and at the western end facing it is the mosque, the open court between being occupied by an ornamental tank and fountain. Although different in their shape and intention, in order to produce a symmetrical composition these two buildings have been made to balance in style and volume, but the tomb is manifestly the more splendid conception. In its arrangements this mausoleum building follows the usual tomb formula comprising a central chamber contained with an arched verandah, and the whole surmounted by a dome, all its parts being so combined so to present an elegant and harmonious effect. Among several skilful expedients is the disposition of the arches in the arcade as two of these on each face are narrower than the others, thus providing a subtle variety in the voids, evidence of marked architectural competence Moreover this alternation in spacing has been carried up into the rest of the composition, and therefore in the same manner influencing the entire facade, a fact which is also emphasized by the intervals between the ornamental finials above the parapet. Tall minar-shaped turrets rise from each angle of the building, but the crowning accomplishment is the elaborately bracketed and battlemented upper story carrying the shapely bulbous dome

Passing into the building, within the arched verandah is a row of pillars, thus forming a double arcade around the central chamber, a structural amplification preparing the spectator for the consummate excellence of the interior scheme. All is profusely embellished, but for sheer fertility of invention and intricacy of pattern the outer wall surface of the tomb chamber is unrivalled, as every portion is ornamented with carving. (Plate XLVI, Fig. 1). This part of the building is an admirable illustration of a condition when the appetite for enrichment is insatiable, and while some may criticise the total effect as one of prodigality, few will question the exquisite beauty of each separate design. Each wall is spaced into an arcade of three shallow arches and these are enclosed by a system of borders and panels with a fine engaged pier at each angle of the building. This division of the surface provided many graceful shapes which were filled in either with arabesques, repeating diapers, or traceried inscriptions, the last being most prominent. All these designs are distinctive of the Bijapur style, the artizans of this school had a gift for originality, and created a whole series of new forms taking little from the indigenous art of the country, while all is fresh and clear.

Another outstanding feature of this tomb building is a constructional one, and concerns the treatment of the interior of the central chamber. This is a small room eighteen feet square, its refined appearance being very largely due to the introduction at the correct height of a gracefully curved and coffered ceiling. Instead, therefore, of the upper portion of the chamber being formed by a dome, it has been ceiled in the same manner as the tomb of Abdullah Qutb Shah at Golconda already described, which it may be noted was erected fifty years later than the Ibrahim Rauza. Such a system, however, has this disadvantage, as although producing a well-proportioned room below, on the other hand it leaves a large useless void above, consisting of the hollow vacuity of the dome. In carrying out the construction of the ceiling at the Rauza, this was ingeniously contrived by means of the masonry being joggle-jointed, and it thus appears to have no visible support. Such a skilfully built hanging ceiling shows that in structural technique the Bijapur masons were masters of their craft. The mosque forming the other half of the Rauza composition, as previously indicated, while corresponding in mass and architectural treatment to the tomb building, as well as in width of frontage, measures less in depth, but it is so disposed as to be in perfect harmony with its vis-a-vis and also with the conception as a whole

The third representative monument at Bijapur is the mausoleum of Mohammed Adil Shah (1627 57) commonly known as the "Gol Gumbaz" or "Round Dome." (Plate LI, Fig. 1). It is related that this ruler realizing the impossibility of exceeding the architectural and plastic opulence of his predecessor's *rauza*, determined to excel it in another quality, that of size, with the result that he produced as his memorial one of the largest and most remarkable single buildings in India The tomb building itself, however, is only one item in an architectural scheme of considerable magnitude, which comprises a mosque, a *naqqar khana*, or drum-house and gateway, a *dharmsala* or rest-house, and other structural amenities associated with an imperial mausoleum, all contained within a walled enclosure. Such a comprehensive conception undertaken during the later part of the ruler's reign and therefore dating towards the middle of the seventeenth century, was many years in preparation, and was accordingly never wholly completed, while even the main structure consisting of the tomb building alone, does not appear to have been given quite the fulfilment that its designers intended. Both on the inside and outside of this immense composition its wall surfaces are severely plain, and although these broad spaces carry with them a restrained dignity, the building seems to lack that final effort required to make it a fully finished production.

In spite of its vast size the Gol Gumbaz is based for the most part upon the simplest architectural forms. Externally the body of the building is a great cube with a turret or tower attached to each angle, while over all hangs a large hemispherical dome. Much of the satisfying appearance of its composition has been obtained by the excellent proportions existing between these main elements, especially of the ratio between the square mass below and the rounded portion above, the latter having no complex curves, being in shape merely an immense inverted bowl. To these were added certain subsidiary forms which connect them and contribute to the architectural effect. Chief among the supplementary elements is the fine projecting cornice, its deep shadow, enriched by closely set brackets (?) with its two salient points emphasized by elongations of these same corbelled forms. Then above this is an arcade of small arches, its formality relieved by skilful spacing, while over this again are massive merlons which, aided by the finials break the skyline with their graceful shapes Finally, there are the bold foliations at the base of the dome, concealing the point of juncture with the drum in a most appropriate manner. Below on the main wall-space three shallow arches have been sunk in each face, elegant and suitable shapes, the larger archway in the centre being panelled out so as to reduce it to the dimensions of a normal doorway. All these architectural accessories are not only in themselves works of art but are so disposed as to take their correct place in the composition, thus producing a total effect well-balanced and satisfying to the eye. But it is when one begins to consider the projecting towers at the corners of the building the mind becomes conscious that in the design of these the high aesthetic standard has not been consistently maintained, and further that they are not in entire harmony with the remainder of the conception Some substantial structural feature of the kind was undoubtedly required to finish off the angles of the composition, but it might have been an accessory less formal and in better proportioned stages than these pagoda-like supporting turrets.

The interior of the Gol Gumbaz consists of one chamber only, but it is a hall of majestic proportions and, like the Pantheon at Rome, and St. Sophia at Istanbul,

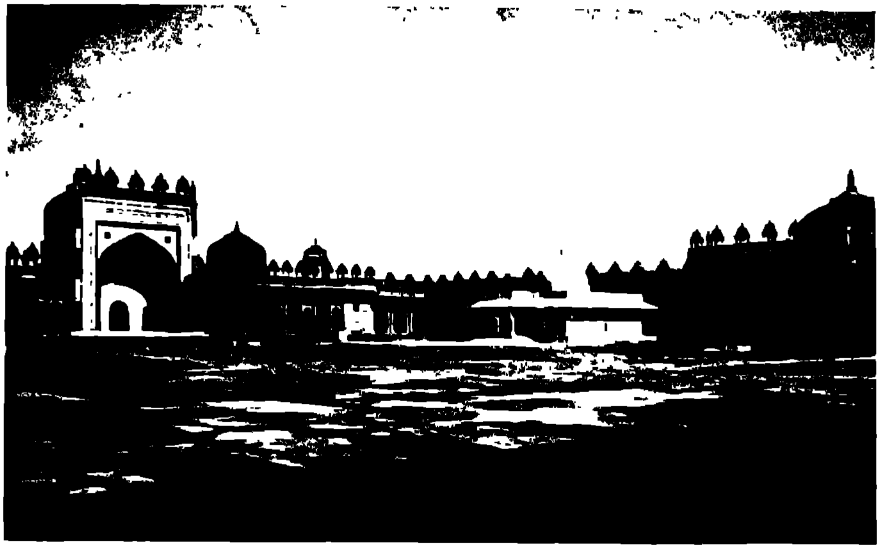


Fig. 1 Jami Masjid and Salim Chisti's Tomb



Fig. 2 Salim Chisti's tomb. Pillar in Portico,
Fatehpur Sikri

LXXIV



Fig. 1 Exterior Facade



Fig. 2 Interior Facade
Fatehpur Sikri – Buland Darwaza

is one of the largest single cells ever constructed. (Plate LII). The noticeable architectural features in this grand vaulted hall are the tall pointed arches forming the sides, which give support to a circular platform above, provided to receive the base of the dome. No expedient such as a ceiling or double dome has been resorted to in this instance, as save for the thickness of the masonry it is the same great inverted bowl within the building as without, and of the same plain hemispherical shape. The system of construction employed in this interior was as simple as its appearance. Beginning with a square plan, as the walls gained in height this square was made to change its shape, so that at its summit it should form an octagon and, ultimately a circle. The conversion of the square below into a circle above was achieved by ingeniously arranging each arch so that its feet stood within the sides of the square plan, but with its plane of surface at an angle, the intersection above producing the eight sided figure on which the circular cornice was projected. The interior surface of the dome is set back some twelve feet from the inner edge of this circle, so that a proportion of its weight is transmitted directly downwards on to the four walls, the remainder being carried on the intersecting arches which also receive and counteract any outward thrust.

The dome itself is a plain plastered vault with six small openings through the drum and a flat section at its crown, but with no central pendant. It is constructed of horizontal courses of brick with a substantial layer of mortar between each course, in other words it consists of a homogeneous shell or monobloc of concrete reinforced with bricks, the whole being of an average thickness of ten feet. Most large domes are built on this principle, and it is quite possible that the masons engaged on the Gol Gumbaz derived their experience of this form of vaulting from either Ottoman sources or from Persia, where considerable architectural activity including the important operation of dome construction, had prevailed for some time. It seems not unlikely that in the erection of this vast cupola no centering of timber was used except for the section near the crown, as by the system of oversailing courses of brickwork, scaffolding for such a purpose would be unnecessary. As to the plan of supporting the dome by means of a combination of intersecting arches, a practice with which the Bijapur builders seemed surprisingly familiar, this method is almost unknown elsewhere, the only other instance and that on quite a small scale, is the sanctuary cupola in the cathedral of Cordova in Spain, a building of Moorish origin and erected some six centuries earlier.

The mausoleum of Mohammed Adil Shah is unquestionably one of the finest structural triumphs of the Indian builders, if only on account of its stupendous proportions Taking its exterior dimensions, the total width of one of its square sides is equal to the entire height of the building which is a little over 200 feet, and the outside diameter of the dome is 144 feet. The interior of the hall measures 135 feet across, and it is 178 feet high, while the gallery from which the dome springs is 110 feet above the pavement. If the spaces covered by the various projections of the interior are omitted the entire area of the hall amounts to over eighteen thousand square feet. According to this calculation it is considerably larger in area than the Pantheon at Rome which measures 15,833 square feet, so that the Gol Gumbaz may claim to be the largest domical roof in existence. Viewed as a whole even with the imperfactions of the corner towers already referred to, this monumental mausoleum is a production of phenomenal grandeur. Unlike most of the other buildings in Bijapur it seems fairly evident that to give aesthetic pleasure was not its intention, it was erected with the object of creating awe and amazement in the mind of the spectator by means of its immense scale and majestic bulk. And these ideals have been abundantly fulfilled. Yet its architectural qualities are also considerable as proved by the skilful composition of its various parts, the harmonious combination of arches, cornice, arcade, foliated parapet and fluted drum, all disposed in an artistic and effective manner upon a structural foundation of simple forms with coherent strength. Whether one stands thrilled before its noble mass or humbled under the vast void of its vaulted roof, one cannot fail to be impressed by the gifted imagination which conceived this great monument, and to marvel at the supreme genius which enabled it to be so splendidly realized.

Of the buildings of the Adil Shahis produced to a more normal scale there are numerous examples, some of exceptional merit. Among these are Shah Karim's tomb, the tomb of Shah Nawaz, a group of mosques in the Shahpur suburb, the Anda masjid, Malika Jahan Begum's mosque, and Ali Shahid Pir's masjid, the facade archways of the last being of an exemplary pattern. But undoubtedly the most remarkable building of this smaller type is that known as the Mihtar Mahall, which, on grounds of style, appears to have been erected about 1620 during the reign of Ibrahim Adil Shah II when, as shown by the character of his *rauza*, rich embellishment was in the greatest request. (Plate LIII, Fig. 1). The name by which this building is now known is incorrect, as it is not a *mahall* or palace but the entrance hall to the courtyard of a mosque, an edifice of almost equal elegance at its rear. It is however something more than an entrance gateway, for it has an upper story consisting of a small assembly room corresponding in some respects to a "parvis" or priests' chamber in a Christian church, and above that again is an open terrace surrounded by a wall with oriel windows and a perforated parapet. Incidentally the assembly room is of a kind which would provide an excellent model for a modern hall. The exterior of this building is an admirable conception, the facade being contained between two slender buttresses rising up into graceful turrets, while the outstanding feature is a window, its balcony projected on brackets and shaded by an expansive eave. Among the other architectural elements are a doorway of pointed arches, recessed within an arrangement of flat panelling, certain elaborations to the buttresses, as well as string-courses and mouldings, all exceptionally well rendered, and each contributing to the artistic appearance of the whole. Every detail is decoratively shaped and sumptuously carved, some parts excessively so, as for instance the struts supporting

the window eave, which have been so finely wrought as to resemble carved brackets in the form of thin wooden braces. The fineness of the workmanship is astonishing, the stone being manipulated as if it were plastic clay, either in the chiselling of the low relief patterns around the doorway or in the deep moulding of the coffered ceiling of the ground story, all is executed with a loving care recalling that of the artists of the Italian *quattrocento*. The entire structure seems to imply that not only the artisans themselves took a pride in the perfection of their handiwork, but that they were encouraged to do so by their patrons who experienced an equal pleasure in seeing such exquisite forms grow under their hands.

The secular architecture of Bijapur in comparison with the religious is of a decidedly pedestrian order, and has few significant features. It took the form of palaces and civic buildings produced to the order of the various rulers, often in a style of their own and according to their personal needs. Most of these edifices, partly on account of the impermanence of their materials and construction, are ruined, while several have been used during later times for other purposes, which has further obscured their original intention. One of the most noticeable of the civic buildings now remaining is the Gagan Mahall, presumed to have been erected about A.D. 1560 and to have served a two-fold purpose, as a royal residence and a council chamber. In plan it is rectangular, 124 feet by 82 feet, and it was divided into two parts, the frontal portion forming one large open hall, with the other portion at the back consisting of a central hall and a smaller chamber on each side; over all was an upper story, apparently for the accommodation of the ladies of the royal household. In several of the mediaeval cities of central and southern Indian there appear to have been one or more buildings designed on this principle, a combination of assembly hall and hall of audience with palace attached, of which the remarkable Hindola Mahall at Mandu (Chapter XI), is a notable and early example. Later, under the Mughuls, another system was adopted of a separate building for each purpose, consisting of a hall for public audiences and another for private audiences with the palace apartments in still another building, altogether a much more rational arrangement.

In any case, wherever these council chambers were, it was not unusual for them to be of a particularly striking appearance, and the Gagan Mahall at Bijapur is no exception to this rule. For its facade is an impressive conception of three archways, the central one being an uncommonly spacious opening over sixty feet wide and nearly fifty feet in height, and in shape an enlargement of those with low imposts in the cloisters of the Gulbarga Jami Masjid, from which it is obviously descended. This scheme of triple arches, with an abnormally wide one in the centre, is not however infrequent in the architecture of Bijapur as it occurs in the facades of all classes of structure, palaces, mosques, and tombs, as may be seen in the Anand, Sangat, and Ainpur Mahalls, the masjid of Mustafa Khan, and the tombs of Shah Nawaz Khan, and Yaqut Dabuli. Such an arrangement however, was obviously essential in the Gagan Mahall, as through this great opening the ruler could obtain an uninterrupted view of any royal ceremony held on the terrace in front. Stone masonry was almost invariably used in the buildings of Bijapur, but in some of the palaces wood played an important part in their composition, being used for pillars and also in the construction of the ceilings; while combined with this timber work was a certain amount of stucco, so that in several of the halls these surfaces were decorated with mural paintings of subjects executed in heavy but rich colouring.

The architectural abilities of the builders of Bijapur as their achievements indicate, were of a high order, but these were equalled, if not excelled, by the superb quality of their workmanship. Taking their productions, as a whole, their masonry construction was as good as if not better than any in India, some of their stonework being superb, almost equal to that of the best Roman. Then the brickwork, as shown in the execution of their domes proves that they not only know how to prepare their materials, but also how to apply them to the best advantage. And as already explained, their system of intersecting arches was not only masterly but unique, each structural process and practice implying long years of experiment in all branches of the building art.

In this connection an unusual light is thrown on the more ordinary methods of construction by the unfinished tomb of Ali II, who died in 1672. Only the ground-story arches of this ambitious scheme had been set up, when the entire work was stopped owing to the death of the ruler, but the extensive frame work of bare unfinished masonry, standing just as the builders left it over two and a half centuries ago, is as moving as it is instructive. One fact in connection with this incompleted tomb, which was the last to be undertaken, concerns the shape of its arches. Hitherto, the curves of the arches in all the buildings of Bijapur were of a kind which required to be supplemented by tangential lines in order to meet at the crown, but in this unfinished structure the arches are formed of simple curves struck from two centres, thus corresponding in their general contours to those of the fourteenth century Gothic. Whether this departure from the original type of Tudor arch implied some decisive change in the character of the style is not revealed, as the end of the dynasty together with that of the art followed very shortly, but the alteration in such a distinctive feature is significant. Up to the final years of the Bijapur rule the high standard of the masonry was fully maintained, but throughout the entire course of the style the builders worked at a disadvantage owing to the quality of the stone they were compelled to use. The only building material of a suitable kind available within the State was a local basalt, good in certain respects yet inclined to be brittle and friable, and it is chiefly on this account that a number of the monuments, otherwise well-constructed, have fallen into ruin.

Not exactly in the Deccan, but more to the northwest of this region, is the country of Khandesh. Small

in area, in the fifteenth and sixteenth centuries this independent kingdom produced a number of buildings which, although not forming a separate style, display original and distinctive features. In view of its geographical position athwart the Tapti river and wedged in between such powerful dominions as those of the Deccan on the one hand, and of Gujarat and Malwa on the other, it is only natural that the artisans of Khandesh should have taken a considerable amount of their architectural inspiration from these influential centres of the building art. Yet under the patronage of the Faruqi dynasty, who ruled the State from 1382 to 1600, the buildings at the capitals of Thalner and Burhanpur are an attempt to express an architectural individuality of some significance. The city of Burhanpur was founded in 1400, and it was about the same time that the large citadel[1] and palace, or Badshahi Qila, (King's Fort) occupying a commanding position on the banks of the Tapti, were built. This appears to have been a sumptuous structure, but is now too ruined to enable any definite opinion of its architectural style to be formed. Belonging to a slightly later date, is a group of tombs at the ancient town of Thalner, one containing an inscription of Miran Mubarak (dec. 1457), which represents the nature of the movement at this stage. (Plate LIV). These buildings show a close affinity to the Malwa type of tomb as instanced by the mausoleum of Hushang Shah at Mandu, produced there only a few years previously There are however certain differences in the treatment of the Thalner examples, both structural and ornamental, implying that these were not mere copies, but that the artisans employed were introducing ideas of their own. The principal innovations are the change in the position of the openings, such as the wider spacing of the doors and windows, in the emphasis given to the parapet over the eaves, and in the elevation of the dome by means of an octagonal drum and the stilting of its sides. Although these tombs at Thalner may not have the stolid dignity and stability of the Malwa original which appears to have inspired them, they are a pleasing variation of the same type.

Towards the end of the rule of the Faruqi dynasty two mosques were erected at Burhanpur, one being the Jami Masjid built by Adil Shah IV (Raja Ali Khan) in 1588, and the other of about the same date, or perhaps a little earlier, known as the Bibi ki Masjid (Mosque of the Lady). The former is a comparatively simple conception, the fifteen pointed arches forming its facade being flanked by two lofty minarets, an arrangement no doubt suggested by some of the later mosques of Gujarat, which were also the models for its well-considered proportions, specially noticeable in the arcade around the courtyard. The other example, the Bibi ki Masjid, is a building displaying more vitality in its design and construction, its style being not dissimilar from a certain type of mosque at Ahmedabad. (Plate LIII, Fig. 2). For instance, its facade is of the closed variety, with a large central archway contained between substantial minarets, the whole being enriched with mouldings and carving. Its chief claim to originality lies in the composition of the minarets, as their upper portions are ornamented with oriel windows having projecting balconies, while the summit is crowned by a spherical cupola. Although not entirely successful owing to the rather inferior workmanship on the lower stories, the treatment of these minarets is a definite departure from anything produced elsewhere.

The concluding phase of this manifestation in Khandesh took place when the country came under the rule of the Mughals, as illustrated by the tomb of Shah Nawaz Khan, one of the provincial governors in the seventeenth century. Even at such a late date something of the independent nature of the building art is still observable, although in this instance it takes the form of a composition consisting mainly of elements borrowed from different sources. Its square design in two stories may have been derived from some of the royal tombs of Gujarat, the pinnacles are not unlike those on the Tughlaqian buildings at Delhi, but with the addition of foliations from Bijapur, while finally the whole is crowned with a "Lodi" dome. Yet despite the diversity of these attributions they are united with knowledge and skill, so that the result as a whole is not unattractive. But it is clear from the character of this structure that any spontaneity the movement originally possessed had declined, and this tomb therefore represents the last effort of any significance in these parts.

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CHAPTER XV

PROVINCIAL STYLE
KASHMIR (From the 15th century)

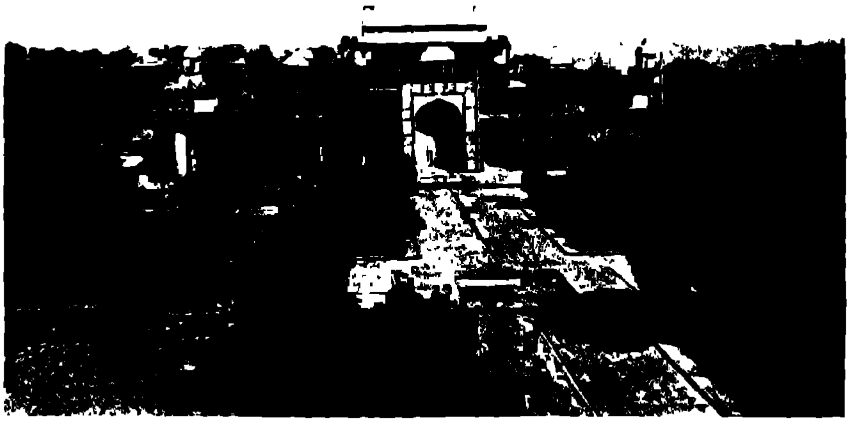
THERE can be few countries which exhibit more contrasting manifestations of architecture than the State of Kashmir. In the first instance there was the classical, aristocratic, and hierarchic development represented by the stone monuments of the Buddhist-Hindu period which flourished mainly during the first millennium; this was followed by a period of building in wood, as illustrated by the more democratic folk architecture which prevailed under the Mohammedan rule; finally there was a short interval in the sixteenth and seventeenth centuries, when the Mughul emperors brought into the State their own style of stone architecture, as shown by a few examples of unmistakable character. But the type of architecture associated principally with the Islamic domination of Kashmir is that constructed almost entirely of wood, and which assumed a singularly distinctive form.

Although this method of building first comes into view with the Mohammedan occupation of the country towards the fourteenth and fifteenth centuries, and is the mode that is still largely used, there is every indication that building in wood in Kashmir, has a very ancient history. For civic and secular purposes it was no doubt co-existent with the stone architecture of the first millennium, but on account of its impermanence all examples of such an early development have disappeared. In support of its ancient usage there is the evidence of the style of this wooden architecture itself, which by the manner of its manipulation, and its suitability to the climate, country, and the needs of the people all prove that it was a constructional method that had long been in regular use. Moreover in no other part of India was serviceable timber available in greater quantities or more readily accessible, and it could therefore be used in all structural operations without stint, this fact alone conditioned not a little the methods of the workmen and the character of the building art, as in such circumstances the matter of economy of material did not arise. The result of this superabundance of supply was that there was no need for the builders to devise ways and means for simplifying their structural system, or of making one piece of wood suffice where two or more were ordinarily used.

The technique therefore of the woodwork of Kashmir consisted in the elementary contrivance of laying one log horizontally on another, usually crosswise in the form of "headers and stretchers" as in brickwork, in this fashion producing not only the walls, but also on occasion the piers for the support of any superstructure, in the case of an ordinary pillar however, single tree trunks were generally employed. A variety of cedar tree, deodar (*Cedrus Deodara*), is the wood mainly used, and is floated down the rivers in the form of huge balks to its destination. The simplest method of such log construction may be studied in the series of bridges which span the river Jhelum at Srinagar, the capital city of the State. Several of these *kadals* as they are called, are still built on the cantilever principle, and illustrate a system of bridge building which has probably been in practice for many hundreds of years. The main supports, or piers, take the form of a massive wooden structure, in general appearance resembling an inverted pyramid with its truncated apex resting on a solidly built masonry cutwater. Each pier is built up of layers of logs, in alternate courses placed transversely, at right angles, in such a manner as to make it sufficiently strong to withstand a fair flood current below, and to carry a reasonable load above. (Plate LVIII, Fig. 1.)

It was on this system, so clearly shown in the piers of the bridges, that most of the wooden buildings in Kashmir were produced, but refined and elaborated to suit their more architectural appearance. This may be seen in some of the better class types of houses where the logs are carefully squared, and the spaces between each course filled with neat brickwork on glazed tiles. In the interiors of the rooms these interstices are sometimes converted into wall recesses, very convenient as lockers or cupboards. But not even in the most superior buildings does the construction show any profound knowledge of woodwork or of the art of joinery, and although a simple dovetail joint is occasionally found, the logs are generally fastened to one another by a stout wooden pin. There are no signs in this rudimentary workmanship of any influence from that remarkably efficient and precise form of timber architecture which is reproduced in the rock-cut halls of the Buddhists in India of a much earlier date. Nor do any expedients of a mechanical nature find a place in the Kashmir productions, no struts, trusses, or diagonal members to secure lateral rigidity, the sole system being that of a dead weight bearing directly downwards, on much the same principle as the early stone masonry of the temples. Such a ponderous mass of material that these wooden buildings presented provided little stability; and being further loaded with insertions of brickwork, it is not surprising that they frequently collapsed. Fire, also, at frequent intervals has made havoc with these inflammable edifices, many of which on this account at one time or another having to be rebuilt. In these circumstances, although the foundations of several of the more important examples of this wooden architecture date from an early period of Moslem rule, little of their original structure remains, most of it consisting of later replacements.

The similarity of this form of Kashmir architecture to the timber construction of other mountainous countries cannot be overlooked, particularly its likeness to that of Scandinavia, and also to the regions of the





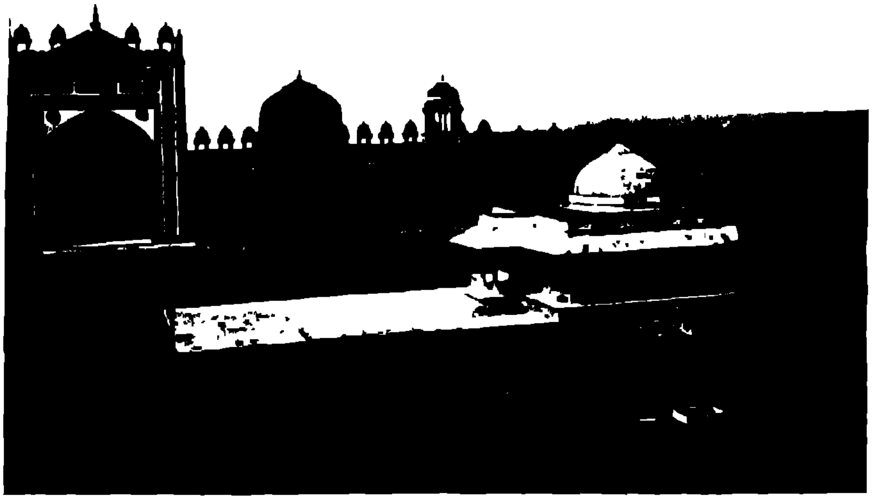


Fig.

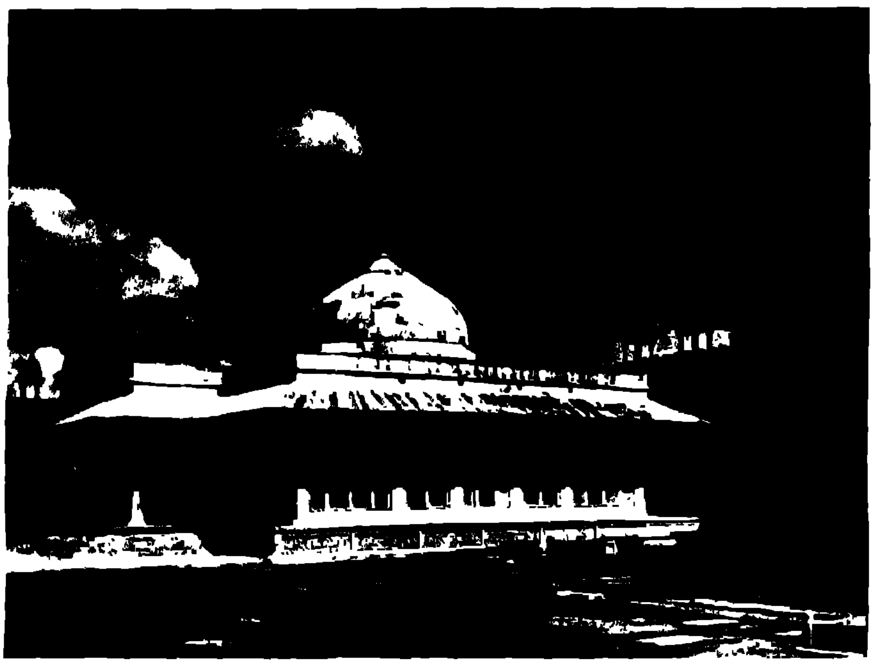
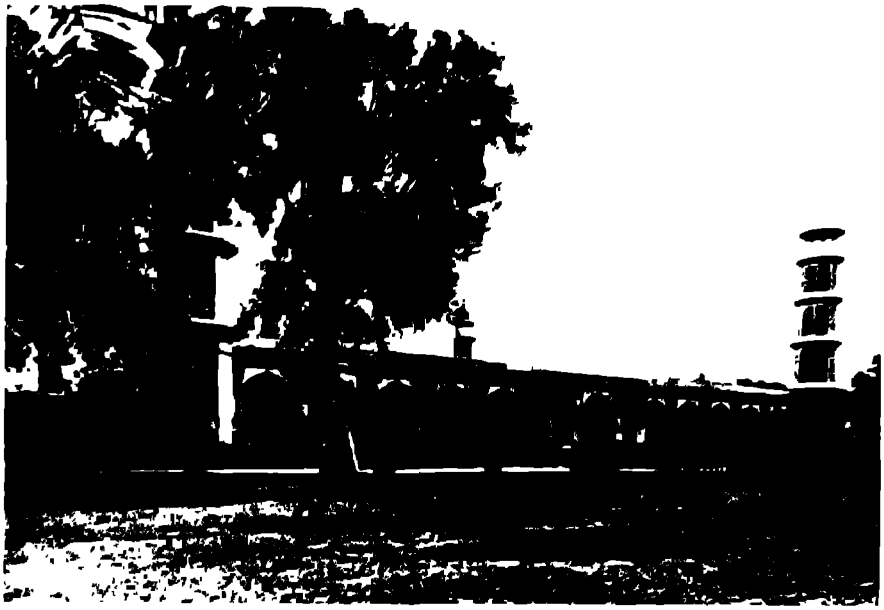


Fig. Fatehpur Sikri — Tomb of Salim Chishti



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Fig. 2 [illegible]

Alps. In the wooden churches (*stavekirke*) of Norway of the eleventh to the fourteenth centuries, there are the sloping roofs rising in tiers so as to form a kind of pyramid, with gables and overhanding eaves, each surface water-proofed with layers of birch-bark, every feature of which has its counterpart in the wooden shrines or *ziarats* of Kashmir. Then the chalets of the Austrian Tyrol with their projecting upper stories, balconies with carved railings and casement windows, bear a familiar resemblance to the old houses of Srinagar. But these analogies of style in such widely separated countries are obviously not due to any common origin, they have been brought about by each people having to cope with similar climatic conditions, and being provided with the same class of materials for this purpose.

The typical wooden architecture of Kashmir takes the form of either a mosque or a tomb. The latter is known as a *ziarat*, and is a characteristic feature of the valley, often enshrining the remains of some local celebrity or person of holy repute. One of these is to be found in or near most villages, personal respect being shown to it by the custom of all wayfarers dismounting and passing its sacred precincts on foot. In design both the mosque and the *ziarat* are composed of much the same main architectural elements, which in each type of building are apportioned in the same manner. These main elements are three in number and consist of lower cubical structure or body of the building containing the hall or chamber, a pyramidal roof, often in tiers, and over the whole a slender spire not unlike a Gothic *fleche*. In the mosques, especially of the larger kind, there is a fourth element interposed between the apex of the roof and the base of the spire; this takes the form of a square open pavilion, thus acting in the same capacity as a minar, or elevated gallery, from which the muezzin makes his call to prayer.

Except for certain extraneous features, among which are a small subsidiary shrine and a range of cloisters added later, the mosque of Shah Hamadan in Srinagar is a typical example of the wooden architecture of the country (Plate LVIII, Fig 1) Standing on the right bank of the Jhelum river on an irregular masonry foundation composed of ancient temple materials, this building with its surroundings and background of distant snowy mountains presents an enchanting spectacle On the day of a festival with a gaily coloured crowd clustered about its water-front, and the picturesque cantilever bridge in the fore-ground, the entire scene reflected in the slow flowing river is a sight to be remembered The mosque, exclusive of its verandah extensions, is in plan a square of 70 feet side, and is two stories in height, which up to its eave is nearly 50 feet. Above is the low pyramidal roof, surmounted by the open pavilion for the muezzin, over which rises the steeple with its finial, 125 feet from the ground Much of the walling of the lower portion of this structure is formed of logs, trimmed square and laid in alternate courses as already described, the log ends producing the effect of a diaper pattern on the sides of the exterior. Under the eave is a heavy cornice, also of logs, corbelled out from the wall-face on timbers laid crosswise so that their butt ends form an elementary kind of dentil course. Such is the solid manner in which the body of the building is constructed, but about it are superimposed lighter structures in the form of arcades, verandahs, and porticos, their openings filled with lattice work (*pinjra*) and enriched with carved wooden insertions. The pyramidal roof, projecting over the whole composition, is in three tiers and composed of rafters having planks above covered with turf, and, in their season beds of tulips and iris, the effect of which when in full flower is one of rare beauty. Under this natural roof garden are fixed multiple layers of birch-bark, which provide a water-proof strata impervious to rain or snow. Above the open pillared pavilion which crowns the roof, rise gable-like projections at the foot of the steeple, breaking its formality with effective passages of shadow. (Plate LIX).

Although the Shah Hamadan mosque is in two stories, only the interior of the hall on the ground floor has any architectural pretensions, the upper portions of the building being plain and severely structural. This lower hall is rectangular in plan measuring 63 feet by 43 feet, the original square having been curtailed in its width by a range of small chambers cutting into it on its north and south sides Four substantial wooden pillars 20 feet in height and forming a square bay occupy the central area of the compartments, the walls, of which are panelled wood with an ornamented dado and other embellishments. In effect the interior is an unaffected production possessing no special structural features, and remarkable therefore not so much for its architecture as for its artistic treatment. With its tapering eight-sided pillars having foliated bases and capitals, the arched and recessed mihrab, its panelled walls stained to a rich brown, the painted ceiling and the many coloured prayer carpets on the floor, its whole appearance while supremely sensuous retains at the same time an atmosphere of suitable solemnity.

But unquestionably the most impressive, and, also the most "architectural" building in the wooden style of Kashmir is the Jami Masjid at Srinagar, founded by the ruler Sikandar Butshikan as early as A. D 1400, and enlarged by his son and successor Zain-ul-Abidin. Although a considerable portion of this immense congregational mosque from an early date may have been composed of brick masonry, it contains in its interior a large amount of timber work, and accordingly on at least three occasions has been badly damaged by fire. Each time, however, that it has been restored no drastic changes appear to have taken place in its composition, while the final reconstruction effected by the Mughul emperor Aurangzebe (1658-1707) seems also to have followed in most respects the original plan. Since then it has been allowed to fall into a state of decay and until recently was in a ruinous condition, but it has now been completely renovated as far as possible in the same style as in the time of Aurangzebe In its design this huge structure contains all the architectural elements which have been already described as the essential components of the Kashmiri type of wooden building,

but so disposed as to form a conception approaching more nearly to that of the orthodox mosque plan. It consists therefore of a square courtyard of some 240 feet in diameter surrounded on all four sides with wide colonnades, the entire area being contained within a lofty exterior wall making a rectangle of 285 feet side. Externally its elevation is composed mainly of this retaining wall, displaying an enormous expanse of plain brickwork averaging 30 feet in height all round the building which, except for the three projecting entrances in the middle of the north, south, and east, is relieved only by a series of small arched openings towards its upper portion. The principal entrance is that on the south side, and consists of a recessed portico which leads across the colonnade forming the southern cloisters into the courtyard of the interior. It is from a point of view within this courtyard that the arrangements of the mosque as a whole may be most readily studied. (Plate LVII.)

Around the courtyard a continuous arched arcade with a clerestory is carried, but in the centre of each side the sequence of arches is interrupted by the imposition of a large structure of almost independent appearance, having a square frontage containing an archway, while above rises a pyramidal roof and steeple. In other words in the middle of each side is interposed an example of the "ziarat" form of building, the structural configuration already described as typical of the wooden architecture of the country. Of these four "ziarat" formations those on three sides resolve themselves into entrance halls, but that on the west, which is the larger and more predominant, denotes the position of the nave of the sanctuary. Passing through the great archway forming the central feature of this sanctuary facade the nave is entered, a fine open space contained within a double range of tall wooden pillars, with an arched mihrab occupying the interior wall. There is an appreciable feeling for the qualities of breadth and spaciousness in this portion of the building, as it is the "high place" or focal point, and therefore all parts are carried out to a very considerable scale. But the real greatness of the conception lies in the treatment of its manifold pillared aisles and cloisters. These lofty colonnades extend around the entire building, four aisles deep on three sides and three aisles deep on the fourth side. They are composed of ranges of pillars each made out of a single deodar trunk, varying from 25 feet to nearly 50 feet in height, and, as they amount to as many as 378 in number, some idea of the slender verticality and elongated effect of the interior perspective may be gained. While there is much that impresses in the general appearance of this immense building, principally on account of its stately proportions, yet, as with several of the larger congregational mosques in India, its almost grandiose dimensions, combined with an unemotional architectural character, invest it with an atmosphere of aloofness not felt in the lesser and more intimate productions. (Plate LVIII, Fig. 2.)

Before passing on to the examples of the building art introduced into Kashmir during the ascendancy of the Mughals, there are a few structures dating from the early Islamic period which indicate that at one time an effort was made to adapt some of the existing Hindu remains to Musulman use. Several of these are of sufficient interest to merit reference, especially as the additions made to them show affinities to the contemporary brick and glazed tile architecture of Persia. The principal building illustrating such a system of conversion is a tomb in Srinagar known as that of Zain-ul-Abidin's mother, and was erected by this Moslem ruler early in his long reign, from 1420 to 1470. (Plate LX, Fig. 1) One of the oldest Mohammedan buildings in Srinagar, the basement is obviously that of a Hindu stone temple of the ninth century, the whole of the upper portion of which was dismantled to make way for an erection in accordance with Islamic needs. Except for this removal, the temenos of the shrine remains much as it was originally, with its low walls and gateways still *in situ*. The plan of the Hindu building was a square with rectangular offsets projecting diagonally from each of its angles, a formation which, it may be observed, made it less difficult to convert into a structure resembling the conventional Moslem tomb. This conversion was effected by carrying up the shape of the existing basement by means of a brick superstructure into the form of a tomb chamber and surmounting the whole with a cluster of five cupolas, one of these being a large and central dome with the others smaller and attached to its sides. In each wall-face a pointed archway has been set, and there are the remains of fluting and arcading in the tall drums of the domes, while the inner doorway seems to have been an attempt at a rare type of horse-shoe arch. The design and execution of this tomb indicate that it was the production of men accustomed to working in brick masonry, and in a method implying Persian influence.

Another Moslem tomb in Srinagar, constructed in much the same manner as the foregoing, is that of Pir Haji Mohammed Sahib, its plinth and the corners of the superstructure, together with the enclosure all having formed part of an earlier Hindu shrine, still in its original position. Also of a similar nature is the *rauza*, or tomb and mosque of Madani, in the suburb of Zadibal, an example more picturesque than architectural, as it is composed of an aggregation of miscellaneous remains. Built on the site of an old temple, the stone plinth of the mosque is Hindu and the brick walls are Mohammedan. Some carved temple columns are in the porch of the mosque, and two similar columns have been used in the inner chamber of the tomb, while there is a date inscribed over the doorway of the former building equivalent to A. D. 1444. But the chief attraction is the tile-work, particularly that in the spandrels, which in its style, design and execution has every appearance of being of Persian manufacture. Of mixed construction also is the Jami Masjid in the town of Pampur, only the basement of which is composed of temple spoils, the upper portion being in the wood and brick mode characteristic of the Islamic style as a whole. From this small series of examples it seems fairly obvious that the attempt to convert the Islamic architecture of Kashmir into a form of provincialized Persian,

in the face of the firmly established indigenous timber tradition, could not be maintained.

There now remains the effort made by the Mughuls in the sixteenth and seventeenth centuries to revive the art of stone building in the State not however, in its ancient form, but according to the architectural ideals of this dominating dynasty. The style the Mughul emperors introduced into the country was that which at the time was flourishing with such vigour in all parts of Hindustan, and of a character which is so generally distinctive that it cannot be mistaken. There are three such buildings, the Fort of Hari Parbat, the *Pattar* or "Stone" Masjid, and the mosque of Akhun Mulla Shah, all executed in the grey limestone readily available in the valley. As a proof of how completely the art of handling stone has been lost by the Kashmiris, when in the sixteenth century the Mughul Emperor Akbar undertook the construction of the fort, an inscription states that he was compelled to import "two hundred Indian master-builders" to carry out his project, as the local artizans appear to have been only accustomed to working in wood. This fort, which crowns the summit of the hill of Hari Parbat, is now in itself a common place production much of it being evidently a more recent replacement of the original Akbari citadel, but the retaining walls with the two gates, the Kathi Darwaza and the Sangin Darwaza, are of the Mughul period, and show that style in its simplest and most dignified aspect. The Kathi Darwaza appears to have been the main entrance, but is a definitely restrained conception whereas the Sangin Darwaza is more expensive and ornate, as its elevation consists of a well-proportioned arched recess containing the entrance gateway, and there are elegant oriel windows on each side.

The two other stone buildings of Mughul workmanship are of a slightly later date, as the Pattar Masjid is said to have been erected in A.D 1623 to the order of Nur Jahan the consort of the Emperor Jahangir, while the Akhun Mulla Shah's mosque bears a date corresponding to A.D. 1649. Both buildings plainly imply that those responsible for their execution were unaffected by the indigenous wooden architecture of the valley, preferring their own methods as regards design, materials, and technique. Although what may be defined as "provincial" Mughul, these two mosques are equal in architectural quality to many of the productions in the capital cities of that empire, yet as in the case of the fortress referred to above, they depict the style in its temperate manner, being broadly treated with the minimum amount of decoration, but at the same time avoiding undue severity.

This specially applies to the Akhun Mulla Shah mosque which stands on the scarp of the Hari Parbat Fort enclosure, and in spite of its very moderate size and dilapidated condition is well worthy of note. Briefly it may be described as a mosque within a mosque, as the sanctuary forms a separate and detached building standing within a surrounding courtyard. Such a structural system so admirably suits the purposes for which it was intended, that it is surprising it was not copied in larger and more important examples. Here the plan resolves itself into a relatively large rectangular enclosure containing a tank for ablutions and bounded by a range of compartments for the accommodation of attendants and devotees. At the western end of this enclosure is the mosque sanctuary isolated from its surroundings and consisting of a square building around a square open court, the front portion forming the entrance, the sides the aisles, and the western end the prayer hall. Constructed of grey granite slabs over a core of brickwork, the proportions of this building, the simplicity of its surface treatment, its architectural character and manipulation generally, are all most commendable. Particularly noticeable are the archways whether plain, pointed or engrailed, as they are singularly graceful in their curves, while this scheme of the back wall exterior, with a projection to mark the recessed mihrab in the interior is well conceived. In many respects this ruined and neglected structure is a model in miniature of an appropriate mosque composition.

In addition to the fort and the two mosques there are other structural records, mainly in brick masonry, of the Mughul occupation of the valley, some of these being sumptuous summer resorts, such as the Peri Mahall, or "Fairy Palace," on the hillside overlooking the Dhal Lake, which although interesting in its arrangement of terraces is of no special architectural significance, and, having evidently been hastily erected, is mostly in ruins. An exception may however be made in one instance, the large *baradari* or pavilion in the celebrated Shalimar Bagh, or "Garden of Bliss," a loggia of black stone pillars and sculptured brackets, with every part in pleasing proportion and most artistically executed. But all such masonry buildings, whether of stone or brick, were architectural impositions, introduced into the country to satisfy the requirements of its alien rulers. The indigenous style mainly composed of timber, and designed and constructed according to tradition, took nothing from these intruding productions, it continued on its course, uninterrupted and unaffected by any influences from without, either Persian or Mughul.

CHAPTER XVI

THE BUILDINGS OF SHER SHAH SUR

Sasaram cir. 1530-40 ; Delhi 1540-45

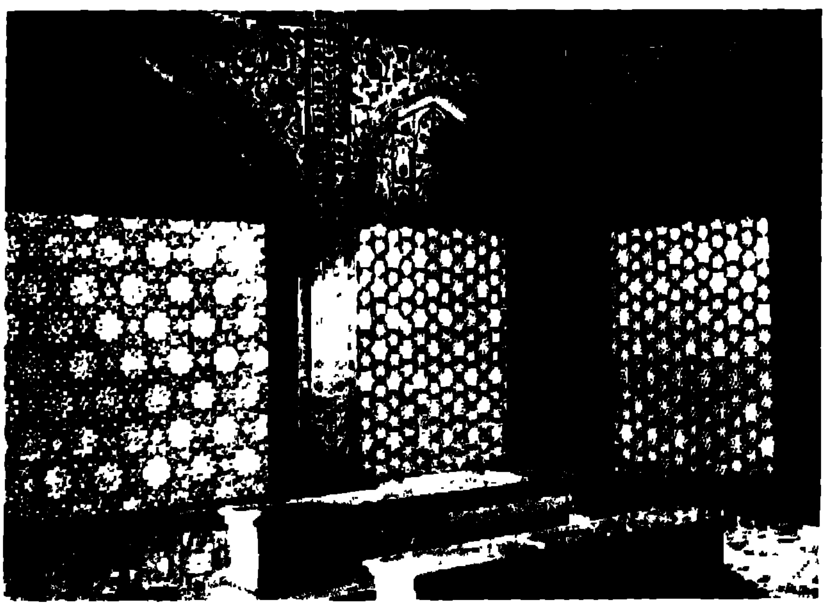
THE empire of the Mughuls was founded by Babur in 1526, but before their rule had been firmly established, it was interrupted by the Afghan usurper, Sher Shah Sur, who seized the throne of Delhi, and for an interval of fifteen years the Sur dynasty reigned in the Moslem capital. Such a limited period of power would ordinarily have had no marked effect on the architecture of the country, had not Sher Shah been a man of outstanding character and, moreover, already a patron experienced in the building art. The result therefore of this interregnum was that it coincided with a most decisive movement in the development of the Islamic style, and one which had far reaching implications. The architectural projects of Sher Shah Sur resolved themselves into two distinct manifestations, each produced under diverse conditions and in two different localities. The earlier phase emerged during the period that this accomplished Afghan adventurer was all-powerful in the Lower Provinces, the mausoleums that were erected at his capital seat of Sasaram in Bihar, illustrating the final fulfilment of the Lodi style by which they had been inspired. On the other hand the second phase depicts the building art when, having wrested the throne of Delhi from the Mughul emperor Humayun, Sher Shah proceeded by his active patronage not only to precipitate the oncoming architectural movement then in process of formation, but to make it into what was destined to be a most important stage in the development of the subsequent style of the Mughuls.

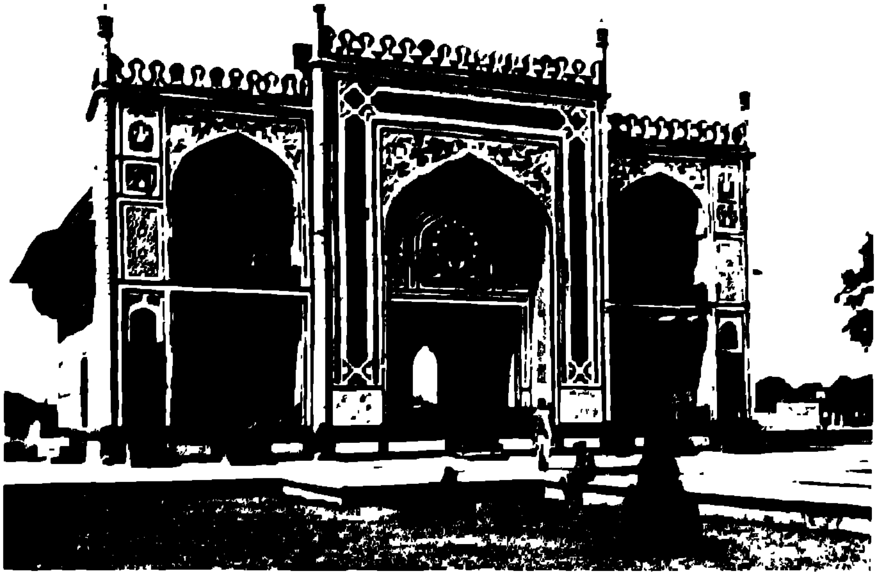
The first of these two architectural phases - that at Sasaram, now a small town in the Shahabad district of Bihar, is represented by a group of tombs, three belonging to the ruling family, and one a memorial to the architect who built these ; another tomb at Chainpur a few miles to the west is that of Bakhtiyar Khan, a nobleman of the time. All appear to have been planned, if not partly erected, during the decade before Sher Shah Sur assumed this sovereignty at Delhi in 1540, and it may have been some presage of his imperial ambitions that moved him to desire those tombs in which he was personally concerned to be of the same order as the royal mausoleums at the Moslem capital. It is somewhat of an irony therefore that the finest example of what has come to be regarded as the Lodi type of tomb was produced not in Delhi, but on this relatively remote site in the provinces, five hundred miles distant and an appreciable time after the Lodi rule had come to an end. Sher Shah's own tomb at Sasaram, although a provincial monument is so much superior to anything at the Muslim capital that it is clear there was some exceptional driving force behind its execution. Obviously the explanation is that the Delhi tombs, although good of their kind, are the expression of a ruling power approaching its decline, while, on the other hand, Sher Shah Sur throughout his brief career, showed in all his building projects the vigour and audacity of a fresh and rising personality. To insure therefore that the family tombs of the Suris should be true to style, this ruler procured a master-builder of the name of Aliwal Khan, trained in the imperial tradition, to carry out his schemes, and his first commission at Sasaram was the construction, about 1535, of the tomb of his patron's father Hasan Khan. (Plate LX, Fig. 2.)

This mausoleum building, which is contained within a walled enclosure entered by appropriate portals, is a copy of a Lodi tomb of the octagonal variety already described, and although a composition having undoubted merit, it is hardly equal in its architectural qualities to a number of those that had previously appeared at Delhi. In the first place there is no plinth, the building stands level with the ground without any preliminary substructure, a fact which robs it of some of its stature and dignity. Then the middle story is merely a bare wall of little interest, in the Delhi examples this would have been either fenestrated or screened at intervals by a series of kiosks. Incidentally, it may be noted, that in these Sasaram productions, there are no indications of any inclined walling, although the "Firuzian slope" still persisted in some of the tombs being erected at the same time at the northern capital. It is possible that any short-comings in the design of Hasan Khan's mausoleum may be due to the fact that this building was partly of an experimental nature, but what is remarkable, is that the next tomb produced very soon afterwards of Sher Shah Sur himself, is so far in advance of its predecessor as to be in a class by itself, for it is one of the grandest and most imaginative architectural conceptions in the whole of India. (Plate LXI). Aliwal Khan's trial effort certainly bore rich fruit. This designer had obviously taken the Lodi type as his basis, but has so amplified the original model that he has transformed it into a very different thing ; in other words he has used the Delhi examples merely as stepping stones leading to an architectural creation belonging to another and higher plane. Not only has he appreciably enlarged the normal proportions of his model so that the Sasaram mausoleum is several times the diameter of any Lodi tomb, as it is 250 feet wide, but he has increased the number of stories, thus producing an immense pyramidal pile of ordered masonry in five distinct stages, the whole rising to the considerable height of 150 feet. But what makes this composition unique is its unrivalled setting, as the entire structure stands foursquare in the centre of a great artificial lake, so extensive that each of its concreted sides measures as much as 1400 feet in length.

Those responsible for this architectural masterpiece were unquestionably gifted with phenomenal vision, for the spectacle of such a ponderous building, solid







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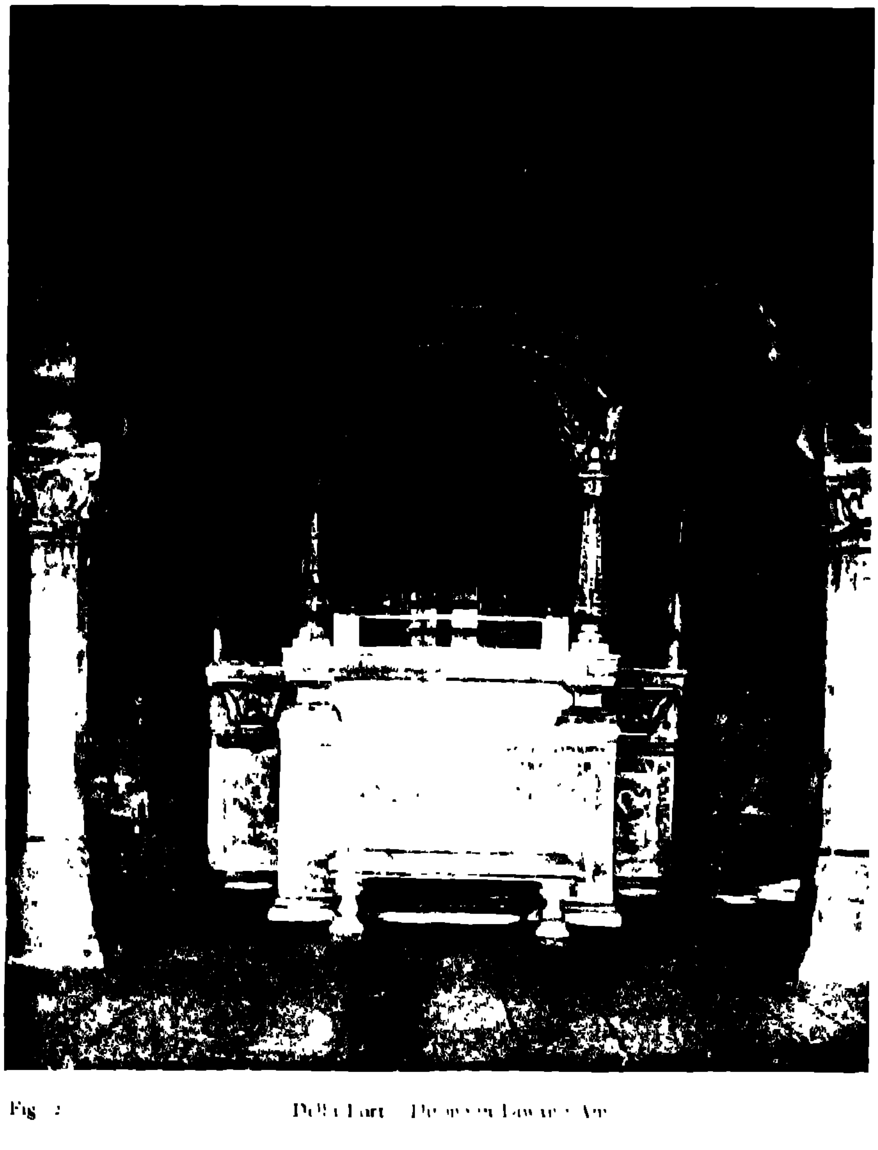


Fig. 2 Delhi Fort — [illegible]

and stable in itself yet apparently floating on the face of the waters, its reflections creating the illusion of movement and at the same time duplicating its bulk, is unforgettable. Although isolated in this manner, its connection with the rest of the world is maintained by means of a causeway access to which is permitted through a strongly built guard-room on the edge of the northern side of the lake which, on occasion, could be closed and defended. Of its five stories, the two comprising the foundations of this island tomb, consisting of a stepped basement rising directly out of the water, and a tall terrace above, are both square in plan, the latter being so designed that its upper surface forms an ample courtyard with a substantial pillard pavilion at each corner. Occupying the great space within this courtyard is the tomb building, an octagonal structure in three diminishing stages, and surmounted by the broad low dome. The lowest story is in the form of a verandah, having triple arches in each of its eight sides with a projecting eave above, over which rises a high crenellated parapet. The second stage is a plain wall similar to that in the tomb of Hasan Khan but here its surfaces have been partly screened by a pillared kiosk at each angle, and there are also projecting window openings between. In reality the third stage is the drum of the dome, and this also is relieved by a series of kiosks which actually break into its circular base, thus carrying the eye along its ascending curves to the massive lotus final which crowns the whole.

Such is the scheme of this building in its bare outlines, but it resolves itself into much more than a skilful grouping of its major parts, however elegant they may be. For, viewed as an example of architectural expression, it is an inspired achievement, a creation of sober and massive splendour of which any country would be proud. There must be few who can look on this great grave monument, silent and solitary, as in the course of years its living environment has receded from it, without being deeply moved by its calm and stately dignity. The proportions of its diminishing stages, the harmonious transition from square to octagon, and from octagon to sphere, the variety and distribution of its tonal values, the simplicity, breadth, and scale of each major element, and, finally, the carefully adjusted mass of the total conception, show the aesthetic capacity of the Indian architect at its greatest, and his genius at its highest.

Passing to the interior arrangements of this mausoleum, the tomb chamber is entered through the encircling verandah by doorways, one in each side except that in the west which is sealed to accommodate the mihrab. It is a single vaulted hall 66 feet in diameter, and there is no double dome so that it rises directly to a height of 90 feet from the pavement to the crown. Owing to the fact that the plan at this level is octagonal the interior illustrates a constructional principle entirely different from the system of intersecting arches employed in the "Gol Gumbaz" at Bijapur, which is square in its ground plan (Chapter XIII, Plate LII), its octagon shape allows the "phase of transition" to be more simply treated, as it consists of merely the change of eight sides into a circle. This was attained by the "beam and bracket" method, supplemented by an arched niche corresponding to a squinch, at each angle. Thus it will be seen that the interior walls consist of three superimposed rows of arches, each row as it ascends diminishing in height but increasing in the number of its arches, the ground floor consisting of eight, the second row of sixteen, and the upper-most of thirty-two. The angles in each stage are bridged by a lintel with its centre supported by a projecting corbel, the whole a very simple constructional process and handled in a perfectly straightforward and workman-like manner. Light is admitted mainly through the doorways, but a certain amount penetrates into the upper portion of the hall through perforated screens in the triforium arcade. As a whole, the interior of the tomb chamber is moderately plain, the only enrichment being inscriptions carved on the *qibla* wall, consisting of graceful lettering but with little ornamental elaboration.

This monument is constructed of the fine sandstone obtained from the historic quarries of Chunar situated only a short distance away, the masonry being in large blocks laid in rather irregular courses, but the stones are well-dressed with good joints. As it now appears the building is a uniform grey mass, presenting a sombre effect in keeping with its solemn purpose, but it is quite clear that when first produced it was intended to convey a very different impression. For there are sufficient remains of glazed and painted decoration on its exterior walls to indicate that generous passages of broken colour were an important part of the scheme. Some of these patterns may be traced on the *kanjuras*, or battlements, others on the parapets or enriching the shadow below the projecting eave, all bold geometrical designs in strong combinations of red, blue, yellow and white, suitable for a building of such breadth and scale. This colour scheme was carried over most of the surfaces, including the cupolas of the kiosks, and when in addition it is realized that the great dome was painted a glistening white, with its crested finial in brilliant ruddy gold, the whole reflected in the shimmering waters of the lake, some idea of the oriental sumptuousness thus presented may be gained. As this monument was evidently purposely situated close to that famous highway now known as the Grand Trunk Road, along which for centuries the never-ending traffic has passed and repassed between the furthermost limits of the empire, graphic accounts of its splendour must have spread far and wide.

At first sight the mausoleum of Sher Shah at Sasaram appears to have been built on a perfectly symmetrical plan, but an examination of its substructure shows that a curious correction in its orientation had to be effected during the course of its erection. It was intended that the building should have its faces opposite the points of the compass, but on completing the great stepped plinth, it was discovered that through some miscalculation this foundation of masonry was eight degrees in error. The true alignment of the tomb was evidently a matter of vital importance, and as it was too late to alter the substructure, the remaining upper part of the building was carried out at an angle with its basement,

the ground plan being sufficiently inclined to bring its sides exactly in the right direction. This alteration has not been actually detrimental to the appearance of the building as a whole, but its late adjustment must have presented some difficulties to its designers, which however have all been skilfully overcome.

Another circumstance which seems to have occurred early in the production of this monument, concerned the particular manner in which the central edifice should be approached from the mainland. There are indications that the first intention was to have the tomb building entirely surrounded by water, only to be reached by means of a state barge with a crew of rowers retained for the purpose. As proofs of this, the character of the stepped platform, the stairways down to the waters edge on each side, the landing stage on the eastern margin of the lake, and finally the unconvincing attachment of the causeway to the tomb terrace, all seem to point to such being the original plan. Other proposals however seem to have prevailed later, the result being the introduction of the causeway across the water and the "bridgehead" guard-room as an entrance. Here the causeway has become so ruined that its design is not quite clear, but its character may be judged from a similar form of approach seen in the remains of another of the Sasaram tombs, that of Sher Shah's son Salim. This mausoleum was also located in a large artificial lake, and the causeway, although resembling a bridge, contains no arches, but consists of a succession of piers with the intervening spaces spanned by stone beams having bracket supports, somewhat on the cantilever principle, each pier carrying a kiosk and projecting balconies. Intended to be larger even than that of Sher Shah's immense monument, this great work was never finished as Salim Shah died in 1552, and it is therefore the last architectural undertaking of the Sur dynasty.

The second phase of the building art as produced under this Afghan succession may be now reviewed. No sooner was Sher Shah Sur seated on the throne at Delhi in 1540, than he immediately proceeded to initiate an architectural movement fully expressive of his aesthetic as well as his forceful nature. This began by a building project known as the Purana Qila, or "Old Fort," a walled enclosure of considerable size and forming the citadel around which Sher Shah planned his capital, the sixth city of Delhi. Two isolated gateways only remain to mark the size and position of this city, for it never fully materialized, and the citadel also is now merely an empty shell, bare of all its edifices, save for one building, a mosque, which has escaped demolition on account of its sacred character. From the appearance of its remains it is clear that the Purana Qila when complete was an impressive concentration of military and palatial architecture, and the destruction of the palace halls and pavilions it once contained, probably ordered by the Mughal emperor Humayun when he resumed power in 1550 has deprived posterity not only of some remarkable examples of the building art at an interesting stage in its development, but what must have been a rare grouping of structures of a most romantic and picturesque order. As it is, there are few fortresses in India which recall more vividly the days of mediaeval pageantry and oriental ceremony than Sher Shah's citadel at Delhi. Its grim gray bastioned walls are strongly built of rough but well bonded rubble masonry, a distinct contrast in colour and structural texture to the high artistic finish of the gateways, formed of smooth red sandstone and white marble with occasional insets of blue glaze. Exceptionally elegant in a robust and forceful manner are the entrances to this stronghold, particularly the *Bara Darwaza*, or main gateway in the middle of the western wall, its architectural treatment prefiguring the style of building that was within. This style is represented by two structures, one of which, a mosque known as the Qila-i-Kuhna masjid, is not only the prime example of the building art as practised at Delhi in the time of the Sur dynasty, but in itself is a gem of architectural design. Moreover, within its relatively small compass is crystalized the genesis of the subsequent art of the Mughuls, and the source of much of its inspiration.

The Qila-i-Kuhna masjid was the Chapel Royal of the Sur rulers when they occupied the citadel of the Purana Qila, and was built by Sher Shah Sur about 1542, this mosque with a small structure named the Sher Mandal, standing solitary and meaningless on the vacant space now formed within the fort walls. Reference has been already made to a series of mosques depicting the various stages through which this type of building passed in the course of its development during the previous half century (Chapter V); but a comparison of the Qila-i-Kuhna masjid with the Jamala masjid, the penultimate example of the series and built some fifteen years earlier, may be instructive and will call attention to the last and most decisive phase in this process of evolution. In their architectural scheme these two mosques are much alike, the facade of each consisting of an arrangement of five archways, that in the centre being sunk in an arched recess contained within a pronounced rectangular frontage above, and at the rear of which rises a single Lodi dome. Each interior is formed of one long hall divided into five bays by lateral arches, which are repeated as an arcade along the *qibla* wall, while the various systems of roof support employed in each building are of the same kind. Yet the difference in the two compositions as a whole, as well as in the treatment of the various structural elements show the amount of experience that had been gained in the interval between the execution of these two examples. Each architectural feature crudely fashioned in the Jamala mosque has been refined, improved, or amplified in order to fit it for its place in the finished production of the Qila-i-Kuhna. Sher Shah's Chapel Royal in the Purana Qila represents the culmination of its type.

The Qila-i-Kuhna masjid consists only of the sanctuary of the usual mosque scheme, and occupies an oblong 158 feet by 45 feet, with a total height of 66 feet. Attached to its outer walls, both sides and back, are several pleasing details such as oriel windows on projecting balconies and two substantial stair turrets one at each rear angle, with a private entrance on the north and

south sides for the use of the royal family. But the chief beauty of the exterior lies in the conception and treatment of the facade. (Plate XVIII, Fig. 2). As already indicated this front elevation consists of five arched openings, each within a larger recessed archway contained within a rectangular frame, but the manner in which each part has been designed and executed, and the whole, co-ordinated into a uniform structural production, is a fine achievement. To add to its elegance is the quality of varied colour, for its sandstone basis is enriched with portions in white marble, and there are also patterns in coloured inlay. Apart however from its aesthetic qualities there are a number of features of a historically traditional character, as for instance the narrow turrets on each side of the central rectangular bay, the fluted mouldings of which are derived from the stellate flanges of the Qutb Minar, while a similar pair on the back wall retain the unmistakable taper of the Tughlaqian phase. The exact shape of the arch should also be noted as there is a slight drop, or flatness, in the curve towards the crown, marking the last stage before this feature developed into the true four-centred Tudor arch of the Mughuls.

The interior of the structure is also a production of a high order, the elegant proportions of its five bays, the effective arrangement of its arches and arcades with their simple broad mouldings, the judicious concentration of the plastic enrichment on the *qibla* wall, and the ingenious and artistic expedients to support the vaulted roof, all show that those engaged on this work were fully confident of their powers. Their technical assurance is well expressed in the various systems that have been exploited in the "phase of transition" employed in the roof. There are three different methods brought into requisition: in the centre is the squinch, in the next bay a very attractive and unusual variety of stalactite, and in the end compartment a cross rib and semi-vault of unusual design, evidently experimental. The finest workmanship seems to have been reserved for the mihrabs, of which there are five, one in each bay. They are designed on the same general principle as the recessed arches in the facade, thus reproducing these like a refrain, but the subtle manner in which one vaulted niche is contained within the other, the decorative treatment of the imposts, the foliation of the major arch, and the delicately inscribed border forming the enclosing rectangle, together with the manipulative skill exercised throughout, mark these central features of the interior as notable illustrations of applied art (Plate LXIII, Fig. 2).

Another structural project undertaken by Sher Shah, and one which is emblematic of his vigorous rule, was a fort that he caused to be built at Rohtas, twelve miles north-west of the town of Jhelum in the Punjab. This was an outpost evidently so placed in order to overawe the wild tribes in this portion of his dominions. Of immense strength, as the stone walls in places are 30 to 40 feet thick, although devised for purely military purposes, some of its twelve gateways were exceptionally fine examples of the architecture of the period. One of these, the Sohal Gate guarding the south-west wall is in fair condition, and is an illustration of how a feature built for strength could also be made architecturally graceful. On a large scale, as it is seventy feet in height, this fort entrance is grandly and appropriately devised, and consists of a central archway placed within a larger arched recess, with an oriel window projecting from the walls on either side. Every part of its structure has been carried out in a broad and simple manner, each line and plane has a sober and massive elegance, while the whole is aesthetically competent. Sher Shah's builders possessed a natural faculty for producing buildings according to need, and at the same time making them into stately works of art.

The foregoing are the principal examples of Sher Shah Sur's building undertaking which have been preserved, representing only a portion of what he actually achieved, but these remains are proof that he held high the torch of architecture, and in his hands it burned with unwonted brilliancy. That this ruler contemplated still greater schemes, the consummation of which was only prevented by his untimely death, is recorded by an early historian in his own works. After having expressed with pardonable egotism, the desire to raise a number of monuments that he specifies, "with such architectural embellishments, that friend and foe might render their tribute of applause, and that my name might remain honoured upon earth until the day of resurrection," he sorrowfully concludes "None of these aspirations has God allowed me to carry into effect, and I shall carry my regrets with me to my grave." Such was the mental state in which these architectural creations were conceived, fundamentally through personal exaltation and pride of power, but blended always with a religious fervour which has kindled in them a spiritual fire

[1] *Tarikh-i-Khan Jahan Lodi*. Elliot, Vol V, pp. 108-9

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Chapter XVII

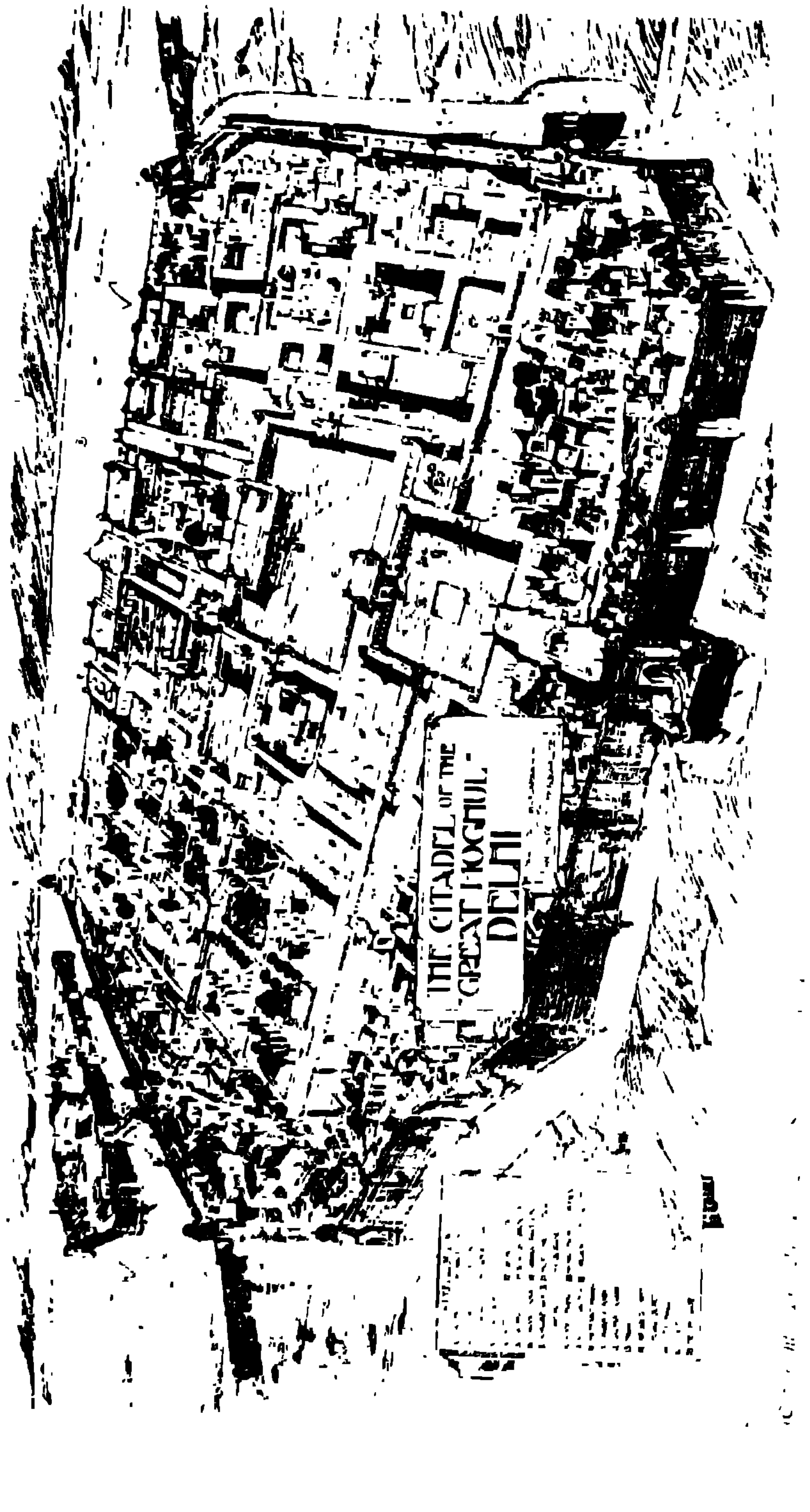
THE MUGHUL PERIOD

BABUR (1526-31); HUMAYUN (1531-56)

THERE now appears on the Indian scene that superb combination of drama, pageant, and historical era known as the empire of the "Great Mughuls." Staged amidst an environment of surpassing splendour, under the patronage of this Mohammedan dynasty the building art in northern India attained its most sumptuous form. It has been already explained that architecture, as developed by the Mohammedans in India, was in itself a relatively late phase of the Islamic movement as a whole, and the Mughul style typifies its most important final manifestation; the monuments therefore produced during this period may be regarded as representing an "Indian summer" of Moslem art and architecture. And it was a summer of more than ordinary brilliance and fertility. For previous to its advent the building art of the country was showing distinct evidences of a decline, especially under the waning influence of the imperial rule at Delhi, although it still continued to flourish with varying vigour in the provinces. At this stage the Mughuls began to assume control over northern India bringing with them the fresh blood of their progenitors the Timurids, an infusion which stimulated exceedingly all forms of intellectual activity, and notably the art of building. During the early years of the Mughul domination the country was too unsettled to produce any work of distinction, but gradually a form of the building art emerged expressive of this ruling dynasty, and which in the course of time developed into one of the most important architectural styles in India. The type of building thus evolved was no provincial or even regional manifestation. On the contrary it was an imperial movement, affected only in a moderate degree by local influences, as it displayed the same uniformity in its architectural character as well as in its structural principles in whichever part of the empire it was introduced.

There were several factors responsible for this remarkable development of the building art and for the high standard of production that was consistently maintained over a period of more than two centuries; among these were the wealth and power of the empire itself, and the relatively settled conditions that prevailed in most parts of the country. But undoubtedly the principal factor was that provided by the pronounced æsthetic nature of the Mughul rulers themselves, as rarely has history recorded such a succession of sovereigns--representing some five generations in all--each member of which was imbued with a keen desire to find expression in one or more of the visual arts. For the culture of the Mughul period was throughout inspired by the throne, being dependent almost entirely on imperial patronage, rising to the greatest heights when stimulated by the personal interest of the ruler, but languishing when it declined. Five rulers therefore of the Mughul dynasty were associated with the development of the architecture of this period, the emperors Babur, Humayun, Akbar, Jahangir, and Shah Jahan; but the Mughul style actually resolves itself into two main phases, an earlier phase in which the buildings were principally constructed of red sandstone during the reign of Akbar, and a later phase when white marble was largely used to suit the more luxurious taste of Shah Jahan. There is little doubt that much of the fine character of the Mughul architecture was due to the fact that each of these rulers was in most respects intellectually superior to those around him; they had their failings, but in their cultured outlook and almost infallible good taste they had few equals. In such circumstances it is not surprising that, during the Mughul ascendency, the building art of the country is represented by a large number of works of more than ordinary splendour.

For a parallel to the ardent, sustained, and perceptive patronage of the Mughul dynasty, history may be searched in vain, but instances of a corresponding nature, although in a lesser degree, may serve as a useful comparison. The court of China during its greatest and most enlightened periods of succession, exercised a most beneficent patronage which affected markedly the quality of the arts produced by the people; in Crete excavations have revealed that during the supreme reigns of the Minoans there ensued an age of continuous intellectual support of the arts from the throne. In India itself something of the kind may have prevailed when the scholarly house of the Imperial Guptas was in power in the 4th, and 5th centuries, as each individual ruler was proficient in some form of artistic expression, an accomplishment which was the means of stimulating all the arts so that the "Golden Age" of Indian culture came into being. England passed through much the same experience during the dynasty of the Plantagenets, distinguished by a succession of sovereigns, each of whom, like the Guptas, besides possessing uncommon talents and taste, was an exponent of an art of some significance. Such was the era which produced the poets Chaucer and Langland, together with the highest development of Gothic architecture. But in none of these world-wide and historical instances does there appear to have been that effectively personal and intimate association, almost amounting to collaboration between the Crown and the craftsman, during the period of the "Great Moghuls," and frequently alluded to in Indian chronicles. Moreover direct enthusiasm from such a commanding source naturally communicated itself to others in authority, inciting that urge, latent within them, to find expression in all forms of art, notably in buildings of an architectural character, such as mosques and tombs. Accordingly wherever the Mughul power penetrated there arose


THE CITADEL OF THE
"GREAT MOGHUL"
DELHI

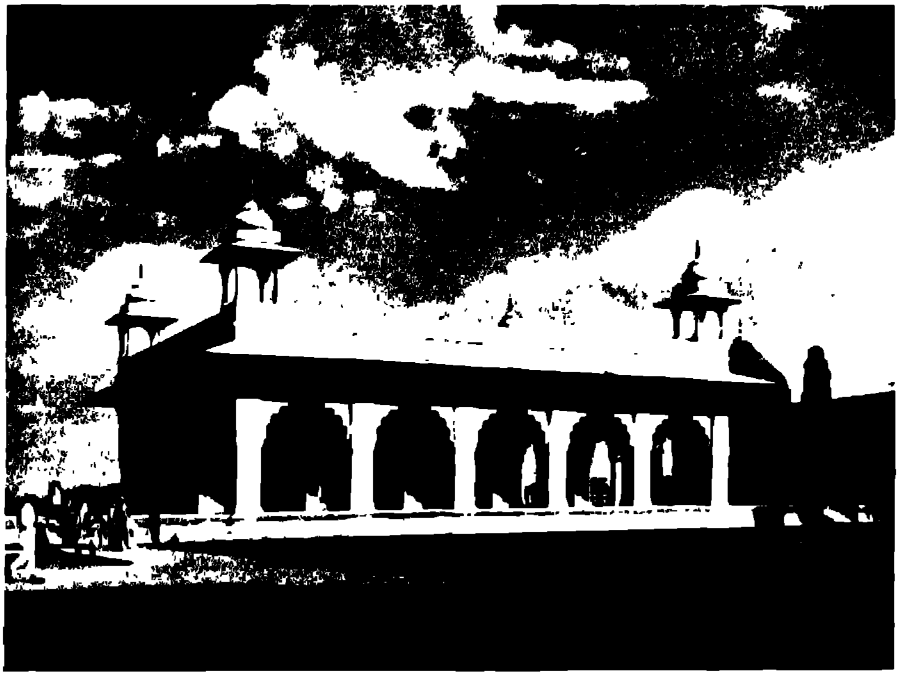


Fig. 1 Diwan-i-Khas

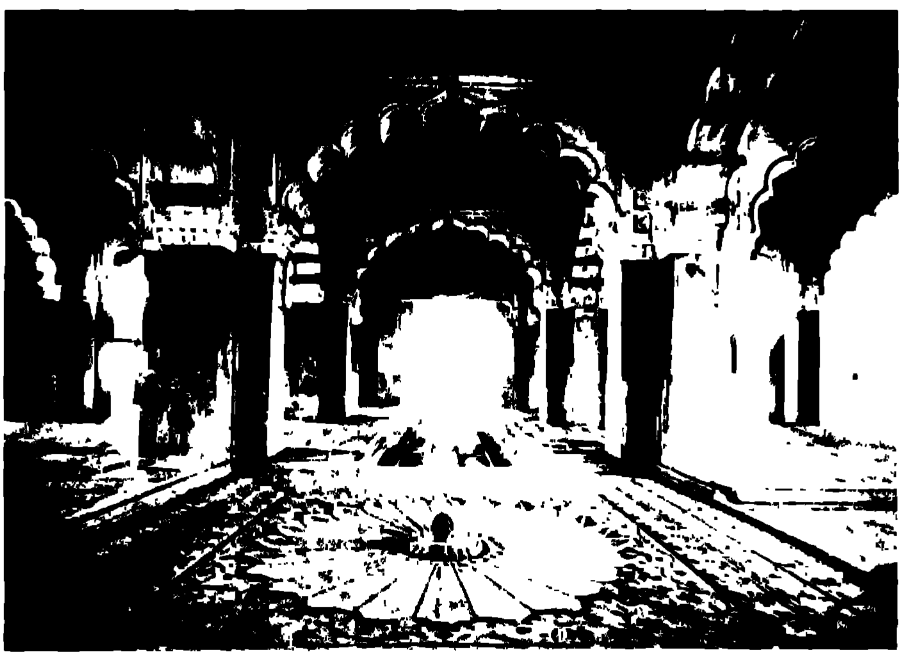


Fig. 2 Interior of Rang Mahal, Delhi Fort

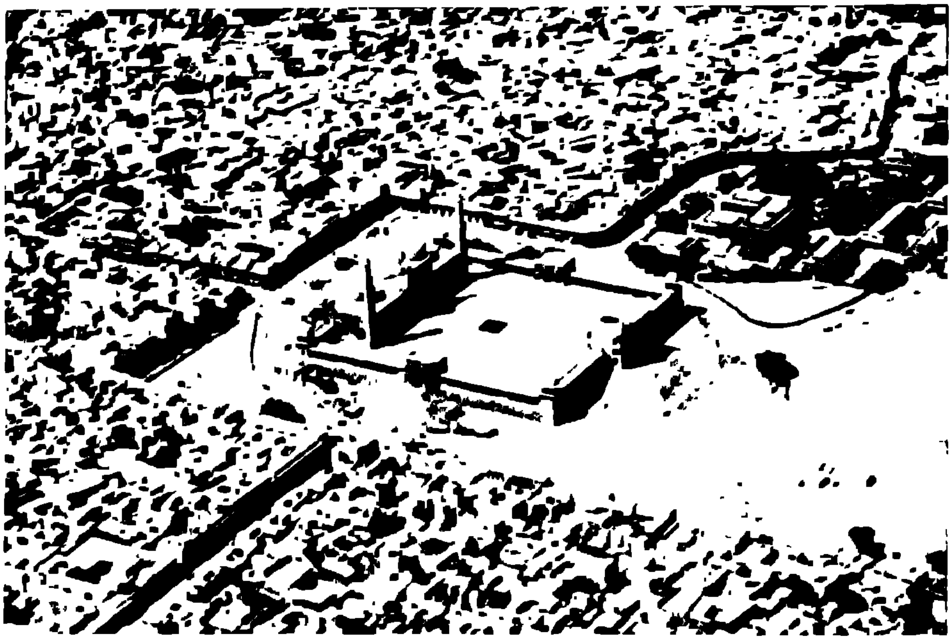
LXXXIII



Fig. [illegible] Pearl Mosque from Diwan-i-Khas



Fig. [illegible] Interior of Pearl Mosque



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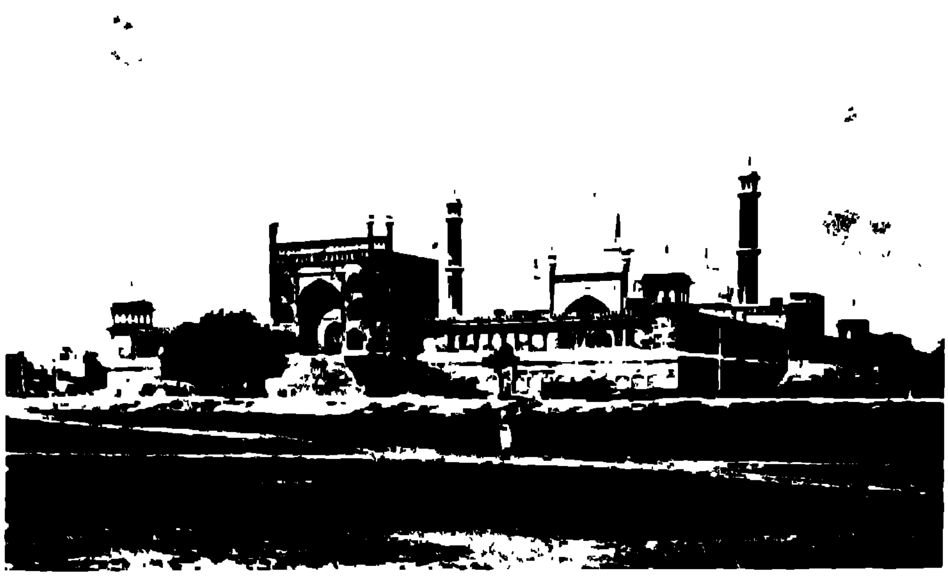
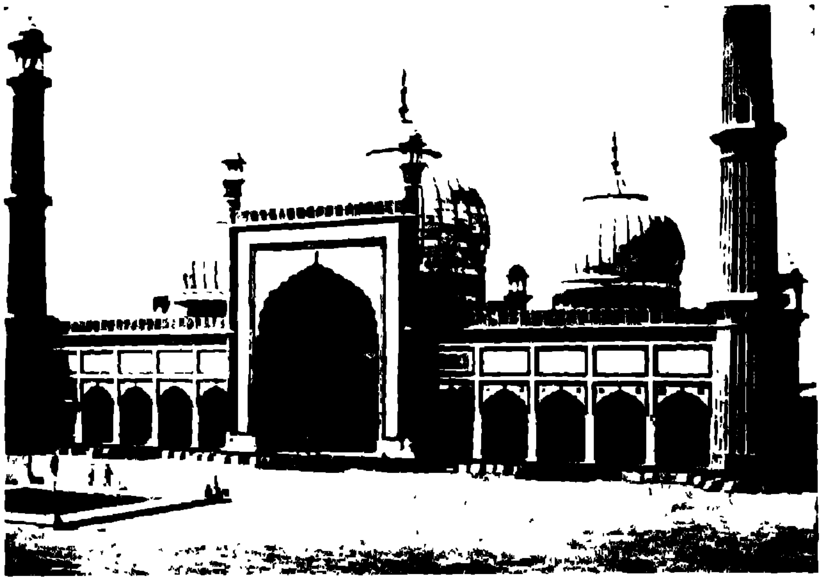
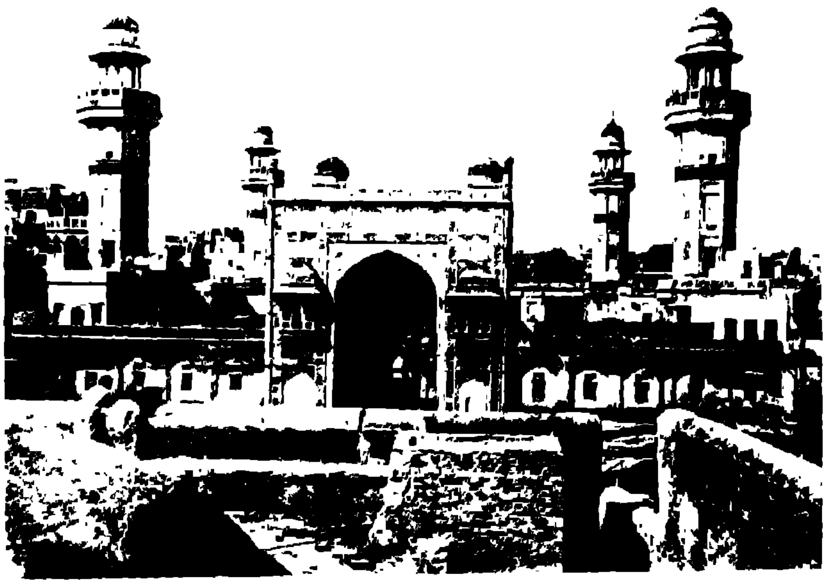


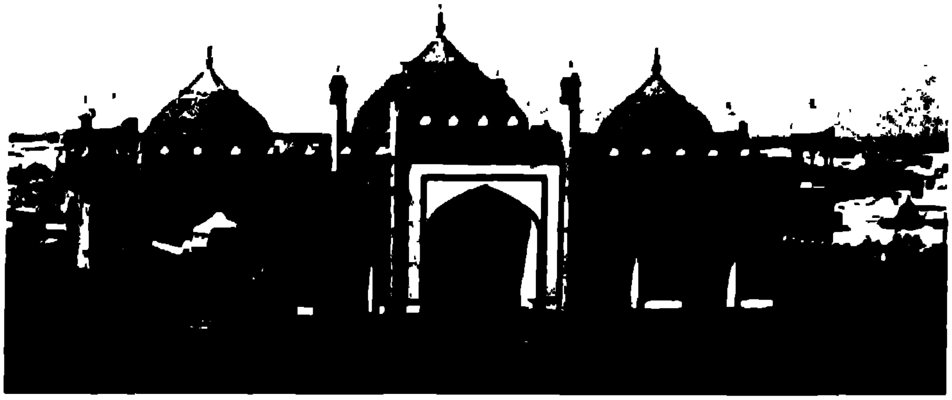
Fig. 2 [illegible] Jami Masjid [illegible]



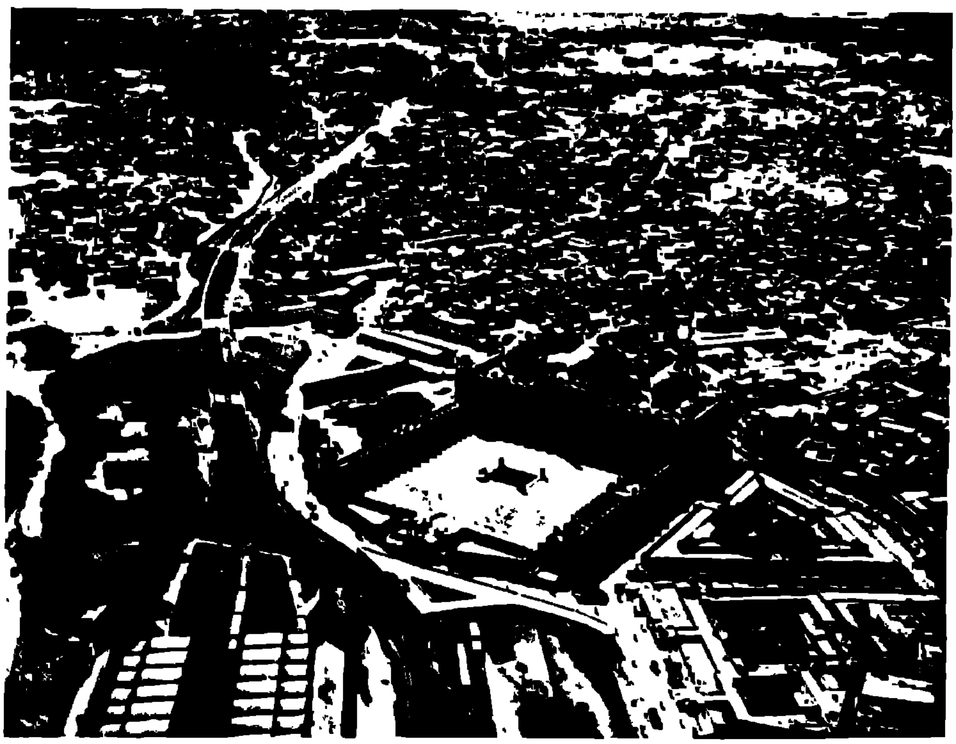
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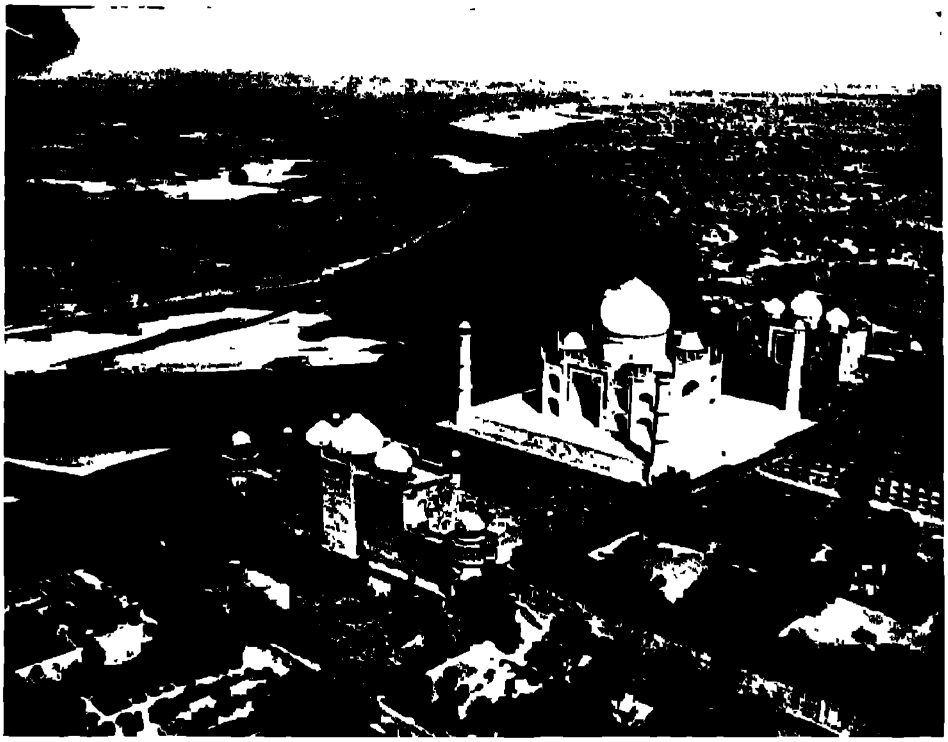


Fig. 1 [illegible]

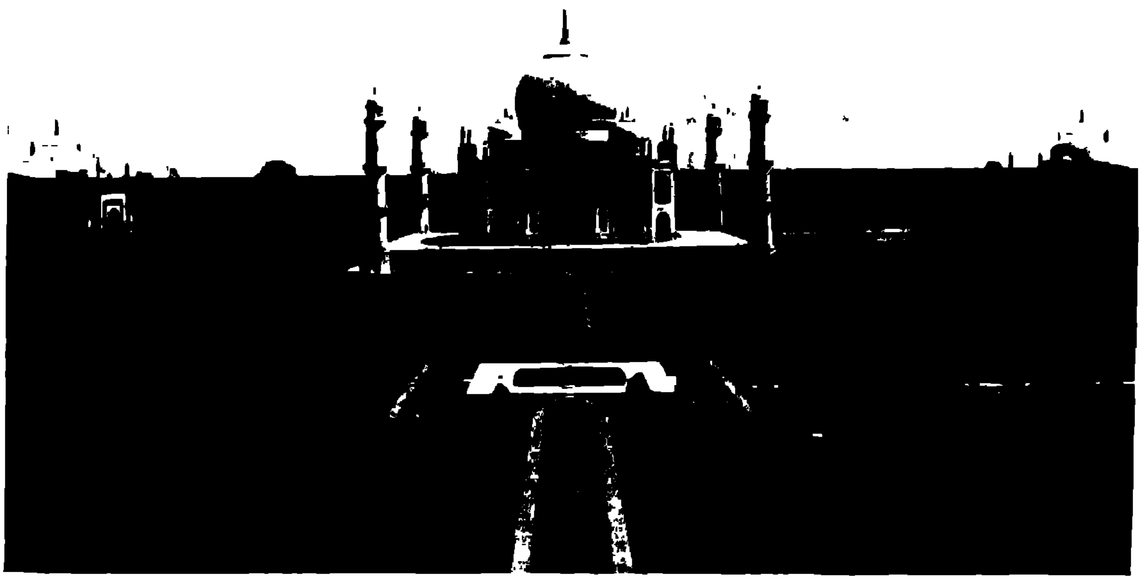
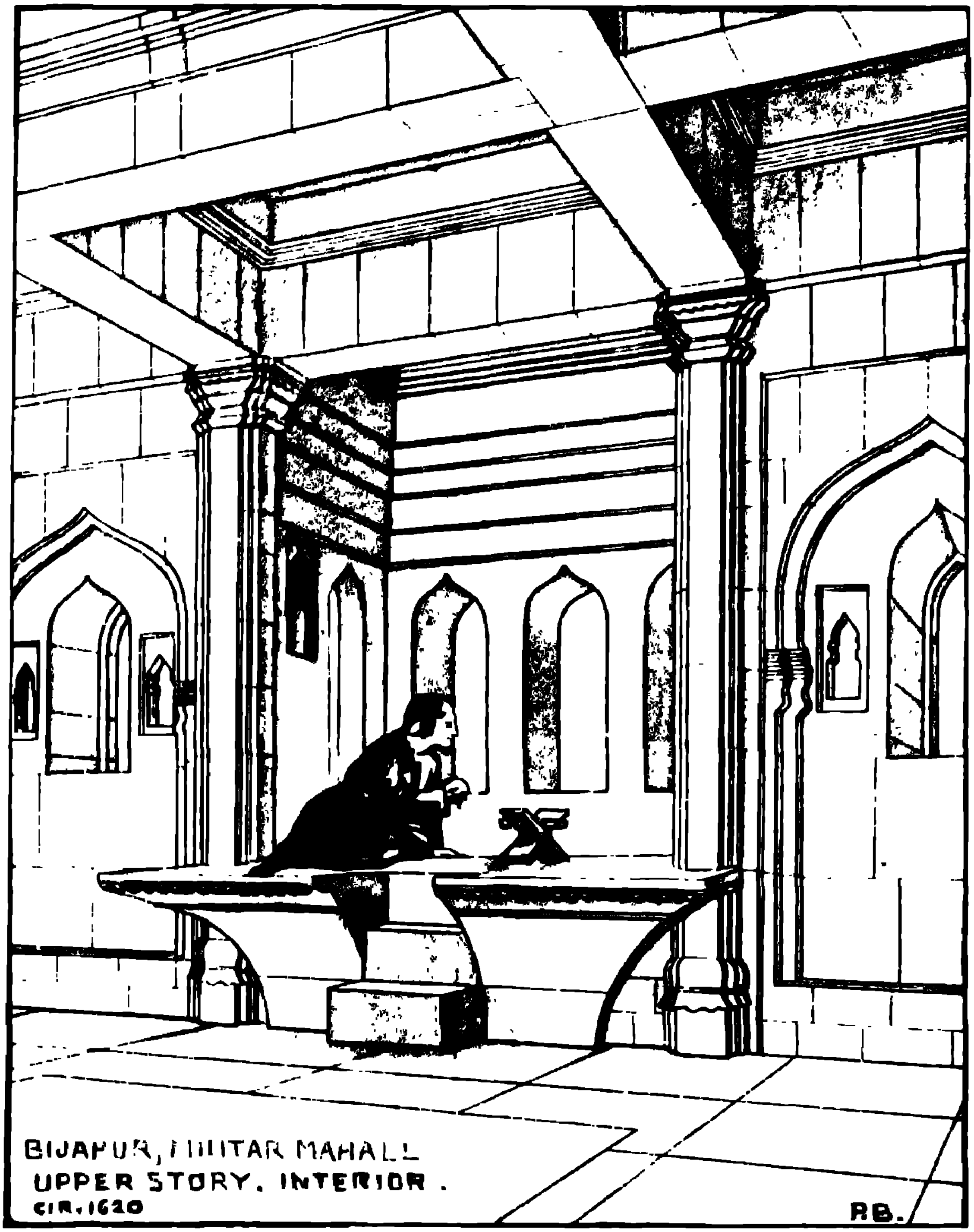


Fig. 2 Agra — The Taj Mahall ([illegible])

LXXXVIIA



BIJAPUR, MIHTAR MAHALL
UPPER STORY. INTERIOR.
CIR. 1620

structures in a specific style, only occasionally influenced by the conditions of their environments, and always readily recognized by their assured treatment in design and technique.

Although the Mughul style of architecture did not take concrete form until the reign of Akbar in the second half of the sixteenth century, the germinal principles of the movement were unquestionably provided by the two predecessors of this emperor, first by Babur the founder of the dynasty, and later by his son Humayun. The former, as is well known, was one of the most dynamic personalities in the history of Asia, and it was the artistic ideals of this princely adventurer that laid the foundations of the style. Babur's appreciation of the beautiful in its widest sense, the birthright of his Timurid ancestry, was communicated in full measure to his successors who, ruling under more stable conditions, were in a position to materialize in stone and marble what to him were little more than dreams. Of Babur's strenuous activities in India, although these occupied but a brief interval of five years, a detailed account has been preserved in his "Memoirs," a human document of surpassing interest, and one in which, among other things, he holds up a mirror to himself. In this he relates that a considerable amount of building construction was undertaken at his orders, chiefly in the form of ornamental gardens and similar pleasances, but as these projects were of a secular nature, they have been allowed to fall into decay, leaving only the barest traces of their existence. There are, however, two mosques which have survived and have been attributed to this ruler, one in the Kabuli Bagh at Panipat in the Punjab, and the other the Jami Masjid at Sambhal, a town east of Delhi, both buildings having been erected in 1526. These are fairly large structures but neither possesses any distinctive architectural character, while of another mosque which he appears to have built at the same time within the old Lodi fort at Agra, Babur himself complains that "it is not well done, it is in the Hindustani fashion."[1]

In spite of the fact that Babur could not fail to be impressed by the notable manual dexterity of the indigenous artisans, he did not attempt to conceal his dissatisfaction at the irregular planning and random design generally of their structures, faults which would readily offend the inherent desire of his race for compositions based on the qualities of strict formality and balance. This lack of uniformity and symmetry so prejudiced him that the fame of the leading Ottoman architect, Sinan, having reached his ears, he is reported to have invited certain pupils of this Albanian genius to India to carry out his architectural schemes[2]. That such an enterprise ever matured is more than doubtful, there is no evidence of any foreign architects being employed in India at the time, nor do the subsequent building productions of the Mughuls show the least trace of any influence of this kind. On the contrary, the Mughuls looked if anywhere to the civilization of Persia for cultural inspiration, drawing nothing from the more powerful but distant empire of "Rum." And it was inspiration only of an abstract order, combined with temperament, that the Mughul dynasty inherited from the vigorous susceptibility of Babur, characteristics destined to have a more profound effect on the arts of the Mughuls than many material contributions.

To a certain extent similar remarks may apply to the individual influence of Babur's son and successor, the emperor Humayun, on the building art of the country during these formative years of the Mughul rule. The surviving structural productions of this emperor are of little more consequence than those of his father, but on the other hand any shortcomings in this direction were largely due to the vicissitudes of his reign. For owing to the successes of the Afghan usurper, Sher Shah Sur, Humayun was driven from the throne to spend the long period of fifteen years in exile, mainly in Persian territory. Yet two mosques remain of the buildings erected during his reign, one in a ruinous condition at Agra, and the other at Fatehabâd, Hissar, but neither of these is of a character that could have effected in any way the course of the style[1]. As in the case of Babur any influence that Humayun may have exercised on the Mughul building art was not through material productions, but as a result of his personal contacts, for this ruler's sojourn while a fugitive from India at the court of Shah Tahmasp was the means of bringing into Hindustan architectural traditions from Persia of great significance. These did not reveal themselves within his lifetime, but matured after his death, and are found in this monarch's mausoleum, the earliest building of note to be erected during the Mughul rule.

The mausoleum of the emperor Humayun at Delhi is not only one of the most arresting examples of the building art in India, but it is also an outstanding landmark in the development of the Mughul style. (Plate LVIII). It emerges however before its time, as it was not until many years afterwards that the traditions it represented became positively incorporated in the architecture of the Mughuls. The construction of this tomb appears to have been begun in 1564, eight years after the emperor's death, a rather unusual circumstance as it was customary for these monuments to be erected during the ruler's lifetime. But in the person of his wife Haji Bagum, Humayun had a most devoted consort for, just as at a later date the emperor Shah Jahan endeavoured to express the loss he left in the death of his queen by raising the incomparable Taj Mahal, so this royal widow consecrated herself and her resources to the creation of a noble memorial to her departed sovereign-lord. And it seems only fitting that when Shah Jahan first contemplated the idea of his great conception at Agra he should have turned to the Haji Bagum's production at Delhi for

[1] "*Memoirs*" Vol. II. p. 533.
[2] Quoted by Vincent Smith in "*History of Fine Art in India,*" p. 406.

[1] See Dr. Beni Prashad in his "*Note on the Buildings of Humayun*" J R A S B Vol. V, 1939.

inspiration. The selection of the particular site for Humayun's tomb was no doubt due to the fact that the city of Dinpanah, or "World Refuge" founded by this ruler, but of which scarcely a trace now remains, lay in its vicinity. At this period Delhi appears to have lost much of its imperial status, as both Akbar and his son and successor, Jahangir, held their courts elsewhere, and from the date of Humayun's death in 1556 until Shah Jahan built his palace fort and took up his residence there in 1638 it ceased to function as the capital of the empire. It still continued however to be the favourite site for monumental tombs, as those of the emperor Humayun and such high personages as Atgah Khan, Adam Khan and others testify, so that it seems to have come to be regarded for the time being as a State necropolis rather than a living city.

Here it was that the Begum Sahiba settled down in 1564 with her retinue, the latter sufficiently large in number to form a small colony, and proceeded with the project on which she had evidently set her heart. The Begum had shared in all Humayun's eventful experiences, including his forced sojourn in Persia, and seems to have absorbed something of the artistic spirit of that country, as she turned to it not only for its traditional knowledge in the art of building but also for the personnel to carry out her scheme. For it is recorded that her architect was one Mirak Mirza Ghiyas, almost certainly of Persian origin, while in addition to this fact, near the tomb is an enclosure still known as the Arab Serai, evidently a misnomer derived from the presence of alien artisans for whose accommodation while engaged on the work it was specially built. And lending colour to this assumption is the nature of the tomb-building itself, as it is of a type which could only have been produced under such conditions. Perhaps the nearest definition of the architectural style of this monument is that it represents an Indian interpretation of a Persian conception, as while there is much in its structure that is indigenous, there is at the same time much that can only be of Persian inspiration. Until now nowhere but in Persia had there appeared a dome of this shape and construction, solely in the buildings of that country had there figures the great arched alcove which gives such character to the facade, and nowhere else but in the royal tombs of that region had there been devised that complex of rooms and corridors forming the interior arrangements. On the other hand only India could have created such fanciful kiosks with their elegant cupolas, and above all only the skilled masons of that country could have produced such excellent stone masonry and combined it so artistically with the finer marble. In spirit and in structure Humayun's tomb stands as an example of the synthesis of two of the great building traditions of Asia—the Persian and the Indian.

The preliminary innovation introduced into the scheme of this mausoleum was that of surrounding the main building by a spacious park-like enclosure. (Plate LXII. Fig. 2). Something of the kind had already begun to appear in the plans of the Lodi tombs, taking the form of a walled-in compound, but the immense square garden with the tomb isolated in the centre, as in this instance, was a marked advance both in providing seclusion and in securing an appropriate setting. Then in the middle of each of the four sides of the enclosure an imposing gateway was introduced, that on the west side being the main entrance, and consisting of a large structure through the embowed archway of which a view of the tomb building is pleasingly presented. Passing through this entrance gateway into the garden its larger area is seen to be laid out in a formal arrangement of square and rectangular compartments with flowered parterres and flagged paths and pavements all carefully designed and proportioned so as to form an integral part of the architectural composition, the lines and spaces leading up to and harmonising with those of the central structure. This central building stands on a wide and lofty sandstone terrace, 22 feet in height, the sides being arcaded, each archway opening in to a small room for the accommodation of visitors or their attendants. Occupying the middle of the upper surface of this ample platform is the tomb structure itself, 156 feet side and square in plan except for certain projections and chamfered angles caused by the design and shape of the four sides. In elevation the four sides are substantially alike, each face consisting of a central rectangular fronton containing an arched recess and flanked by embowed wings each relieved by a similar but smaller arched alcove, while over all hangs the noble marble dome rising to a height of 140 feet with a cluster of pillared kiosks having cupola roofs on each side. The interior of this tomb building, instead of comprising a single cell as heretofore, resolves itself into a group of compartments, the largest in the centre of the cenotaph of the emperor, with a smaller one in each angle for those of his family. Each room is octagonal in plan and they are connected one with the other by radiating or diagonal passages; light is conveyed into all parts by means of clerestory windows formed of perforated screens fitted within the arched recesses of the facades.

The exceptionally satisfying appearance of this building and the lucidity of its composition have been obtained by the skilful realization of all those qualities essential in a great work of art. The structural relations of the plan to the design of both the exterior and interior are manifestly logical, while the correct principles of good building have been unfailingly observed throughout. These factors together with the finished amassment of the various parts, each one elegant in itself but rendered more so by the propriety of its position, are responsible of the superb effect of this monument. Added to these are the perfection of its proportions, the interplay of its surface and planes, the shapes and judicious distribution of the voids, the graceful but bold curves of the arches, and above all the grand volume of the dome. If there is any uncertainty in the composition of the exterior it lies in the grouping of the kiosks on the roof conflicting with the parapet above the central archway but this, as already observed, is a relatively unimportant defect inherent in the style as a whole. Not a little of the artistic result is due to the materials employed, the red sandstone and white marble of which it is composed being admirably blended,

and although some of the white outlining is taut and even rigid such emphatic treatment conveys to the entire conception an impression of austere dignity not out of place in a structure of this order. Special interest attaches to the dome and its method of execution. Here appears for the first time in India architecture the notable expedient of the double dome, for this dominating feature instead of consisting of one thickness of masonry, as in all previous examples, is composed of two separate shells, an outer and an inner, with an appreciable space between; the outer shell supports the white marble casing of the exterior, while the inner forms the vaulted ceiling of the main hall in the interior. Such a structural procedure enabled the domed ceiling inside to be placed lower so as to be in better relation to the hall it covers, this being achieved without disturbing the proportions and soaring effect of the exterior. It was a system of dome construction which had been practised in western Asia for an appreciable period, and its exploitation in Delhi on this occasion is further evidence of the builder of Humayun's tomb being in direct contact with the architectural experiences of Persia.

There is another tomb at Delhi built in almost the same style but probably completed a little later than the foregoing, although it contains the remains of Atgah Khan, one of Akbar's ministers who was killed in 1562. It is situated near Humayun's considerably larger monument, within the group of buildings around the dargah of Nizam-ud-din. There is much of the character of the emperor's mausoleum in this miniature structure but reduced and refined to accord with its smaller scale. Moreover the detailed treatment of the facade with its inlaid coloured marble and low relief carving suggests by its elaboration that the style had advanced another stage in its development; in a word it was becoming more elegant. It seems not improbable that the same workmen produced both these tombs but in that of Atgah Khan they allowed themselves more freedom in the application of fine embellishment to its wall surfaces.

Chapter XVIII

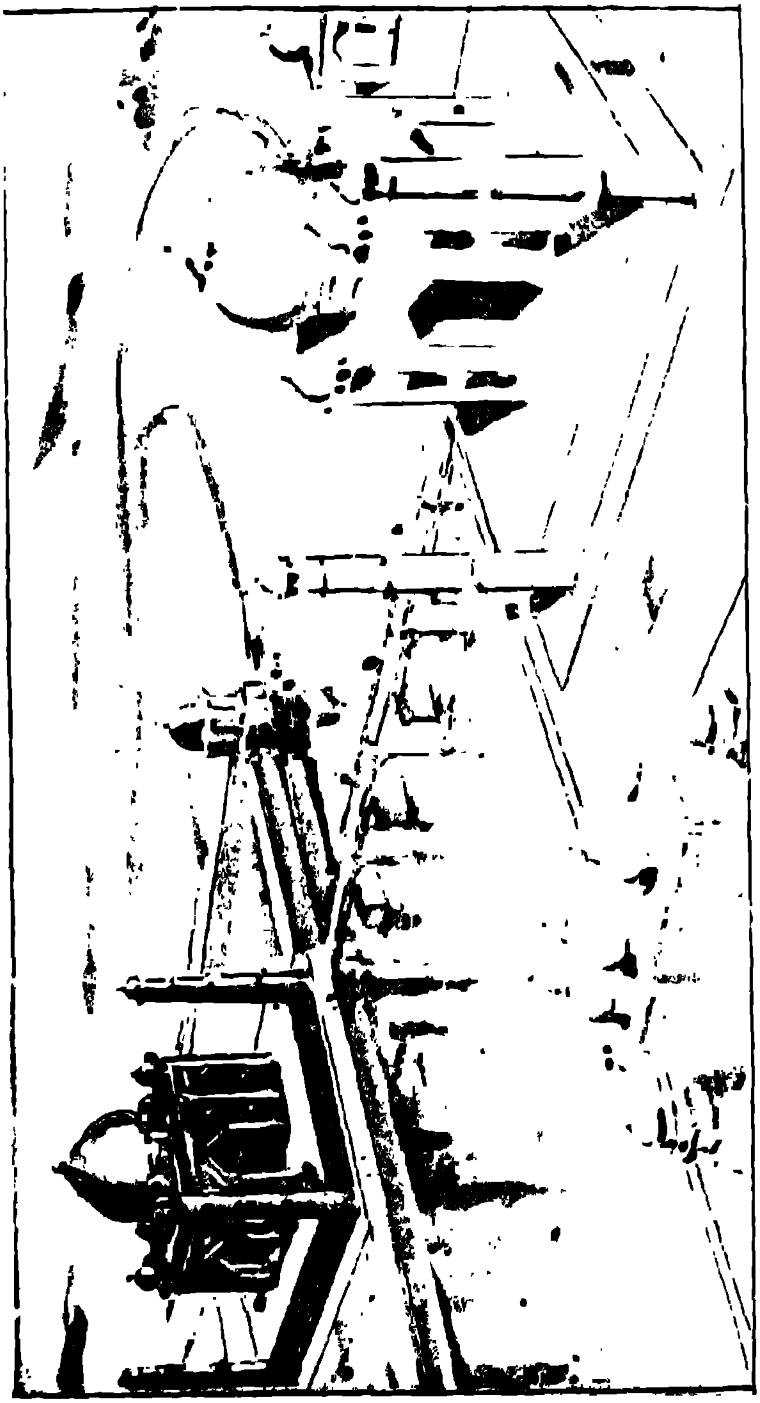
THE MUGHUL PERIOD
AKBAR THE GREAT (1556-1605)

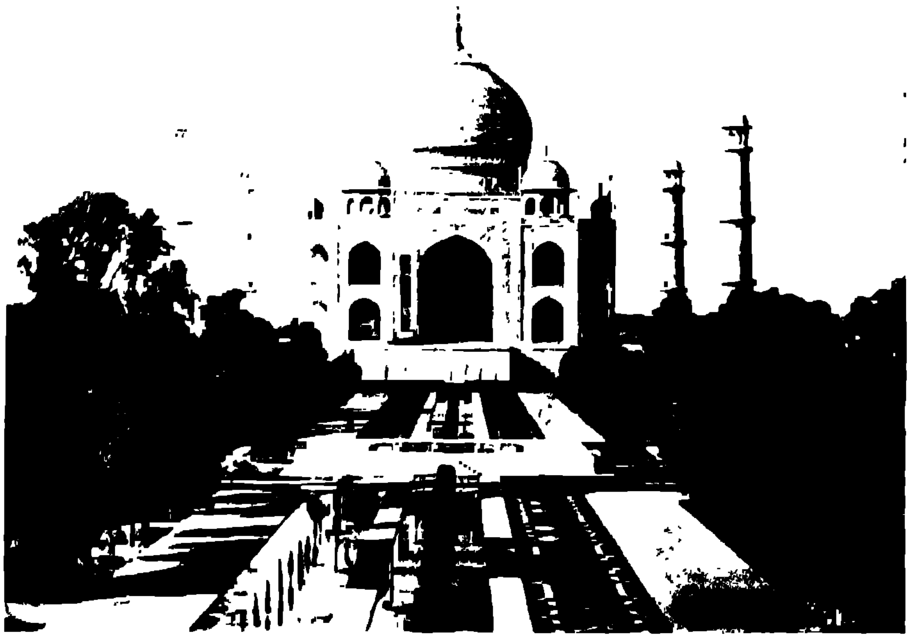
At the same time that Humayun's tomb was being erected at Delhi, the reigning emperor Akbar began at Agra, which city for the time being he regarded as the capital of his empire, that almost limitless range of structural projects that formed one of the outstanding features of his rule. From the year 1545, the date of the death of the usurper Sher Shah Suri, until Akbar laid the foundations of the fort of Agra in 1564, with the exception of Humayun's tomb, owing to the unsettled political conditions that prevailed, examples of the building art are rare. There is however a small mosque at Delhi erected during this interval and known as the Khairu-l-manzil which may indicate the natural trend of the style. The architectural treatment of this structure is similar to that of the building produced at the imperial capital during the rule of the Suris, and therefore provides a small but useful link between the architectural achievements of that dynasty and those of the Mughul ruler Akbar. For it was this form of the building art that the emperor selected to fulfil his own purposes in preference to appropriating the ready-made style from Persia, as was being done in the case of Humayun's tomb. Such a course was typical of this monarch's policy as a whole, the first principles of which were the encouragement of the indigenous systems of his subjects, and only when these proved ineffective did he lay under contribution the experiences of other countries.

In the sphere of the building arts Akbar found the artisans of India still maintaining the living traditions of their craft, the guilds of workmen merely requiring organizing to provide the type of structure that he desired. The style of building that evolved under this ruler's patronage was chiefly executed in red sandstone readily available in these parts, with insertions of white marble not infrequently introduced for purposes of emphasis. In principle the construction was of the trabeate order, although the "Tudor" arch was often used but mainly in its capacity as decorative arcading: as a matter of fact in its appearance but not in structure the style was arcuate and trabeate in almost equal proportions. It is also possible to see by its character that it was not far removed from a wooden archtype, a method of construction that was still practised in the more northern parts of Hindustan as may be observed in the secular architecture of the Punjab at such places as Lahore, Chiniot, and also in Kashmir. During this earlier Mughul period the dome was of the "Lodi" type, sometimes built hollow but never technically of the true double order. The pillar shafts were usually many-sided and the capitals were almost invariably in the form of bracket supports. As to the ornamentation, carved or boldly inlaid patterns were common while painted designs were often introduced on the interior walls and ceilings.

Such were the main elements of the Akbari style of architecture, the first example to be produced being the fortress-palace of Agra, one of several large fortified residences which this emperor caused to be raised at various strategic points in his dominions. In plan this great stronghold takes the form of an irregular semicircle with its chord, some 2700 feet in length, lying parallel to the right bank of the river Jumna. One of its most remarkable features is its massive enclosure wall which consists of a solid sandstone rampart just under seventy feet in height and nearly one and a half miles in circuit, the first application of dressed stone on such a large scale. From contemporary records it is clear the construction of this formidable but orderly mass of masonry was considered a feat of no little significance, as it is stated that "from top to bottom the fire-red stones, linked by iron rings are joined so closely that even a hair cannot find its way into their joints." Apart, however, from the ingenuity of its composition, this wall was treated as a work of fine architecture, for into its structure were embodied such features as battlements, embrasures, machicolations and string-courses, all so skilfully designed and disposed as to give this very substantial fabric considerable aesthetic character. But it is typical of the Mughul rulers that everything these descendants of the Timurids undertook, even the most materialistic and commonplace productions, under their intellectual guidance became touched with artistic feeling and a reflection of their cultured ideals.

Within this fortified wall at Agra were two gateways, the one on the southern side being intended for private entry, but that on the west known as the Delhi Gate was the main entrance and accordingly designed in keeping with the noble rampart on its flanks. This gateway, although Akbar's earliest architectural effort, as it was finished in 1566, is one of the most commendable achievements of his period. (Plate LXV, Fig. 2.) It displays an originality and spontaneity denoting the beginning of a new era in the building art and one in which its creators were clearly imbued with a fresh spirit, free and unrestrained. The scheme as a whole is comparatively simple as its front consists of two broad octagonal towers joined by an archway, while the back is an elegant facade with arcaded terraces above, surmounted by cupolas, kiosks and pinnacles. Its dimensions allow a number of commodious rooms to form the interior, providing quarters for a considerable guard. From every point of view a most attractive appearance has been given to this structure by means of arcades, arched recesses and other architectural and decorative features, so disposed as to add greatly to the effect but without detracting from its real purposes as an essential part of the fortification. The ornamentation throughout is rich and varied, consisting of patterns in white





[illegible]



[illegible]

marble inlay, which against the warm red sandstone background are most effective. (Plate LXV, Fig. 2.) One motif, repeated in the borders, is a conventional representation of a bird, introduced into the design contrary to the Koranic objection to living forms appearing in Islamic art, but it is significant of that spirit of toleration which marked all the movements of this emperor's reign. The buildings of the Akbari period are remarkable for their animation which reflects the spirit of the time, but few are so vibrant in their character as this monumental gateway at Agra Fort.

Within the area enclosed by the walls of this fortress, the *Ain-i-Akbari* states that there were built "upwards of five hundred edifices of red stones in the fine styles of Bengal and Gujarat". It will be seen from this that the emperor was already aware of the artistic nature of his more distant subjects and was utilizing their proficiency, but unfortunately most of these earlier structures were demolished some sixty-five years later to make way for the more sumptuous marble pavilions of his grandson Shah Jahan. They originally occupied, however the southern angle of the fort and were continued along the parapet of the eastern wall the most favourable position as they overlooked the river. But at least one of Akbar's palaces escaped destruction and is still preserved so that it is possible from the examples left to realise the character of the whole. The most complete of these remains is that known as the Jahangiri Mahall, an extensive and somewhat complex arrangement of compartments, afterwards probably the residence of the heir apparent, hence its name. This palace was one of the first of its kind to be erected, as is shown by the experimental nature of its planning, there is an irregular grouping of the halls and rooms and a want of symmetry in its layout, which suggest that while the emperor himself may have known precisely what was wanted, those he employed did not; the workmen were endeavouring to adapt themselves to new conditions and to carry out a structural scheme with which they were not wholly familiar. The result is that the Jahangiri Mahall exemplifies a state of transition between the Hindu type of palace as seen for instance in the Man Mandir at Gwalior built towards the end of the fifteenth century, and the domestic requirements of a Moslem ruler in the sixteenth century. The architectural style of this building also displays a somewhat similar groping for direction, as although constructed throughout of stone it contains several important features suggesting a wooden derivation. This is particularly noticeable in the shape and position of the brackets under the eaves, in the inclined struts supporting the roof beams of the northern hall, and in the pillars of the portico, all of which would have been more appropriate in wood, implying a legacy from the timber age of building construction. (Plate LXVI Fig. 1.)

There were two other palace fortresses of this class built by Akbar, one at Lahore, and the other at Allahabad, the former being under construction at practically the same time as that at Agra, and although in many respects a similar conception it is considerably smaller Owing no doubt to the more open configuration of the ground the Lahore fort is in plan less irregular as it forms a parrallelogram measuring 1200 feet by 1050 feet contained within a high bastioned wall. This regularity of the plan enabled the interior accommodation to be more symmetrically disposed, the whole rectangular area being divided longitudinally into two approximately equal spaces, that towards the south being reserved for the official and service buildings, while in the space at the rear were grouped the royal palaces. Between these two divisions there was an alignment of buildings acting as a kind of barrier or screen separating the public from the private portions of the entire scheme. The architecture of Akbar's period that remains in this fortress is similar in style to that at Agra, as it is mainly in red sandstone with the combination of beam and bracket forming its principal structural system Yet the workmen engaged at Lahore while employing the same methods appear to have been even more imaginative in their ornamental accessories than their fellow-craftsmen at Agra, as some of the designs of the brackets and the carving generally show exceptional ingenuity and fancy. No reference to this fort would be complete without attention being called to the remarkable display of tile decoration which is distributed over the exterior walls on its northern aspect This unique picture gallery in coloured glaze extends from the Elephant Gate (*Hathi Pol*), now the main entrance, to the eastern tower of Jahangir's quadrangle and covers the large space of 480 yards in length and 17 yards in height. The subjects, each of which is in a panel conforming to the surface design of the wall, are mostly of a sporting character, such as elephant combats, games of polo, and hunting episodes, while figure compositions and floral devices also find a place in the scheme. It seems not unlikely, however, that judging from its technique, this mural ornamentation was applied over the original brick foundation at a later date, and the particular process employed will therefore be described in its proper sequence.

The palace fortress at Allahabad begun in 1583 stands at the junction of the Jumna and Ganges and on account of this position in the angle produced by the confluence of these two waterways its plan takes the form of a wedge or irregular segment of a circle. It is the largest of those of its class built by Akbar as at its widest dimension it measures nearly 3000 feet across, but unfortunately it has been dismantled and shorn of much of its architectural interest within modern times. Among the remains of its former glory one structure of significance has been preserved, and also recently restored, which explains the character of the whole. This is a fine *baradari*, or pavilion, known as the "Zenana Palace," evidently one of several buildings of the type comprising the royal quarters within the fortress. It shows that in the architecture of this example the trabeated system of construction was consistently maintained, but that the builders favoured a peristylar form of treatment, as the chief beauty of the design lies in the arrangement of its pillars around an interior hall in the centre. These pillars are designed in pairs except at the corners of the building when they are in groups of

fours, so that from every point of view a rich and elegant perspective is presented. Above this colonnade rises a terraced roof contained within a perforated parapet surmounted by kiosks with lattice screens, the style of the whole suggesting by its opulence the growing wealth and power of Akbar's rule.

Of an entirely different class from any of the foregoing is the fort at Ajmer built in 1570 and evidently devised to function as a spear-head to Akbar's advancing frontier. Although a relatively small structure it is immensely strong in form and intention recalling in some respects a donjon or keep in the castles of feudal Europe, the perimeter of thick double walls being planned in such a manner as to make it apparently impenetrable. Yet in the centre of this solidly built fortification there is an open courtyard containing a spacious pillared hall in the characteristic palatial style of the period, an edifice in two stories the whole being surrounded by a double colonnade with wide bracket capitals. It has a sizable chamber in the interior and there is a room in each of the angles, the entire structure having been obviously so designed for the accommodation of the emperor when on tour. The contrast between this graceful little palace and the stern forbidding nature of its enclosing walls is significant of the spirit of the time.

Yet unquestionably the most ambitious architectural project of Akbar's reign, and, after the Taj Mahall, the most notable building achievement of the Mughuls, was this emperor's conception and creation of an entirely new capital city at Fatehpur Sikri, on a specially selected site twenty-six miles west of Agra. Here astride an isolated rocky ridge rising considerably above the surrounding plain there grew up in such a phenomenally short time that it seemed the work of a magician's hand, a great complex of palatial, residential, official, and religious buildings, so designed and executed as to form one of the most spectacular structural productions in the whole of India. Although surrounded by a bastioned wall enclosing an irregular rectangular area approximately two miles long by one mile broad, this city was never intended to be of any strategic value being purely a ceremonial capital, for in an emergency its occupants could speedily retire to the impregnable fortress at Agra, the two places corresponding in this respect to Windsor Castle and the Tower of London. In spite, however, of the determined nature of this enterprise, the life of Fatehpur Sikri was an extremely short one, it lasted for little more than a generation when the city in the erection of which the unlimited resources of the empire were concentrated was abandoned, and for three hundred years it has remained an empty shell, the silent record of a despot's whim.

Imagine, therefore, a city containing no streets, or ordinary habitations, but an arrangement of broad terraces and stately courtyard around which are grouped numerous palaces and pavilions, each one rivalling the other in the elegance and richness of its architectural treatment. People this with a moving throng of nobles, high officials, personages of rank, and the gaily caparisoned attendants of such an aristocratic community, the emperor himself in residence surrounded by the panoply of his exalted state, and some idea may be gained of Fatehpur Sikri during its transient but enchanting hour towards the end of the sixteenth century. Then with one movement sweep away every vestige of this colourful human element, leaving only the vacant setting, a vast sepulchre of a city devoid of life or spirit. Such is Akbar's capital at the present day, recalling the words "How doth this City sit solitary that was full of people." Yet in the still watches of the night, after its custodians have departed to their homes in the neighbouring villages, faint echoes of its ancient pageantry seem to return. For every murmur from the scrub and jungle by which it is encompassed, every sound from the distant hamlets, is caught up within the deserted courts and corridors, each of these becoming a whispering gallery seeming to repeat in mysterious accents its brief but brilliant story.

The sandstone outcrop on which the city of Fatehpur Sikri was founded runs from north-east to south-west, but the majority of its buildings are planned at an angle to this alignment as they face north and south, being so disposed in order to accord with the fixed orientation of the great mosque, by far the largest and most imposing structure on the entire site. The main approach was from Agra, the road from which after passing through the Agra Gate and a *Naubat Khana* or "Drum House" where distinguished visitors were announced, led straight to the *Diwan-i-am* or Hall of Public Audience, as here most of the public had the right of admission. From this "forum" the road appears to have continued to the mosque, also a public building so that all the structure on the southern flank of the hill were accessible to the ordinary populace. On the other hand there was a large are to the rear of the *Diwan-i-am* reserved solely for the royal palaces and similar apartments, thus forming the strictly private part of the scheme. Around these but chiefly extending down the slope of the hill towards the northern side were supplementary edifices such as offices, *sarnes*, ornamental gardens, stables, etc., principally of a utilitarian order. But it will be noticed that although all the buildings comprising this city were grouped approximately according to their purpose, there is little evidence in its layout or composition of any systematic town-planning having been put into practice.

Except that the great mosque or Jami Masjid of the city is more arcuate in its structure than the secular buildings which are mainly trabeate, the same general style of architecture is maintained throughout although as would be expected in such a comprehensive undertaking there are diversities in the detailed treatment. These variations in handiwork are readily explained. Owing to its size and the speed with which this great project was put into execution, a considerable army of artificers had to be employed, and the local guilds of craftsmen proving insufficient, large numbers were imported from other parts of Akbar's dominions. Each of these provincial groups brought with it the particular architectural idiom of its region, so that it is possible to identify the workmanship of the more distinctive schools,

such as that of Gujarat or of the Punjab. But it is fairly clear that the whole enterprise was under the direction of what now corresponds to a superintending architect who co-ordinated the work so as to ensure an appearance of adequate uniformity in every respect. By this time the master-builders employed by Akbar had fully assimilated the ideals of their royal patron, for the architecture of Fatehpur Sikri has every characteristic of a completely matured style. As to the building material used this is almost without exception sandstone of a rich red colour quarried on the spot as it is of this that the ridge itself is composed. Probably the earliest structure to be erected on the site of the city was that known as the Stone-Cutters Masjid, a small mosque at the western limit of the hill crest which the first workmen built for their own worship.

The buildings comprising Akbar's capital may be resolved into two classes, those of a religious, and those of a secular character. The former are all parts of a large structural composition consisting primarily of the Great Mosque but including its "Triumphal Gateway" or *Buland Darwaza*, and also within its courtyard the tomb of Salim Chisti. More numerous and varied are the secular buildings which are of three kinds, the palaces, those for administrative purposes, and the structures of a miscellaneous order. Taking the secular group first the largest and most important buildings are the palaces such as that of Jodh Bai, and the houses of Miriam, the Sultana, and Birbal, all four of these being representative of the regal residential type of structure of the period. Of this series the palace of Jodh Bai is the most complete in its design and arrangements, while it shows that a suitable form of palatial abode had been under consideration during the decade that separates this building from the apparently experimental effort of the Jahangiri Mahall already referred to in the fort of Agra. Apart from its architectural treatment Jodh Bai's palace discloses in its scheme some of the conditions of living that prevailed among the royal family under Mughul rule. There is the high and almost forbiddingly plain outside wall, with the principal buildings attached to its inner side, and all facing an interior courtyard, entrance only being allowed through a guarded gatehouse having 'staggered" doorways, the object throughout being one of strict seclusion. Within this enclosure every portion is self-contained, with a private chapel for devotions and roof terraces screened by parapet for promenades. All the arrangements are remarkably compact, each part is readily accessible both for the convenience of its occupants and for the purposes of service, in a word this palace building presents us with a close view of what was considered necessary for the comfort as well as for the pleasure of Akbar's favourite queen.

In plan this palace is nearly square as it measures 320 feet by 215 feet while the enclosing walls of 32 feet in height are interrupted externally on three sides, on the east by the gatehouse, on the north by a hanging pavilion or *Hawa Mahall* (Place of Air), and on the south by service and bathing apartments. Except for these attachments the exterior has no outstanding features, the whole of the architectural effect being reserved for the interior. The interior consists of an almost symmetrical range of buildings surrounding a square quadrangle, most of these being in two stories although at regular intervals there are open terraced roofs. In the middle of each side these interior structures rise up into separate blocks, with a somewhat similar detached block at each angle, both in double stories. Each of these blocks is in effect a self-contained suite of living rooms not unlike a modern flat, while on the ground floor there are corridors and passages communicating with each part. Moreover the whole structure was so designed that each group of apartments could on occasion be readily divided off from the others, and it was also arranged that the chambers below in cold weather could be heated, those above always remaining airy and cool. (Plate LXIX, Fig 2)

The architectural style of Jodh Bai's palace, although conforming in its general principles with the other buildings of the city, presents throughout its entire structure a certain character of its own. In many of its elements and also in the manner of its carved decoration there are resemblances to the temple architecture of western India, particularly in the design of the niches and brackets with their unmistakable volute forms, as well as in the shape of the pillar shafts. From the appearance of these features and in its architectural treatment as a whole, it is fairly evident that the construction of this palace was entrusted to a party of artisans from Gujarat, one of the groups of workmen brought from distant parts to speed up the production of this vast project. (Plate LXX) There are many interesting details in the composition of this building such as the application of blue glaze tiles to some of the roofs and cupolas, thus introducing an attractive colour note, and in one upper room the ceiling is a form of waggon-vault with groins, a distinct departure from the almost universal constructional system of the beam and bracket.

Compared with Jodh Bai's palace the remaining royal residences such as the house of Miriam and that of the Sultana are somewhat simple and unpretentious structures, although as with almost every building in this city they display much elegant workmanship. Miriam's house, which in size is less than one sixteenth part of the palace, is a perfect little abode consisting of an arrangement of rooms in two stories but with no central courtyard or other extraneous amenities. It is remarkable, however, for some of its interior embellishment, which takes the form of large mural paintings apparently of Persian subjects and executed in the manner of that country, thus representing an early phase in the development of that celebrated school of painting which flourished under the patronage of the Mughul dynasty. The other residence, that of the Sultana, is even smaller and more modest in its structural composition, as it is a single storied pavilion with only one apartment contained within a pillared verandah. But the simplicity of its design is compensated by the richness and quality of its carved decoration as every wall is chiselled into a pattern of exquisite delicacy and

refinement. In the character and technique of this plastic, ornateness, and also to a certain extent in the actual construction of this little architectural gem, there are definite evidences of a wooden derivation, and it is more than likely that it was the handiwork of a group of artizans from the Punjab where the timber tradition in the building art still lingered.

Another of these houses, that of Birbal, the Prime Minister, is of much the same character as that of Miriam, except that it is more complex in its arragements and in some respects more elaborate in its architectural ornamentation. This building is in two stories, four rooms and two porches forming the ground floor, but with only two rooms above, as the remainder of this story consists of open terraces enclosed by screen. There are cupolas over the upper rooms and pyramidal roofs over the porches, all of which are constructed on a modified principle of the double dome, as they have an inner and an outer shell with an appreciable empty space between. By these means the interior was kept cool and it is evident that the whole structure was planned with this as one of its principal objects. But its chief attraction is the manner in which the exterior of the building has been architecturally treated, particularly in the rich character of the eave brackets as these form an outstanding feature of its elevational aspect. Supports of this nature are common in all the secular architecture of Fatehpur Sikri, but in no other edifice has this structural and decorative element been so liberally employed or so elaborately designed and executed as in this relatively small but lavishly devised ministerial abode. (Plates LXIX and LXXI.)

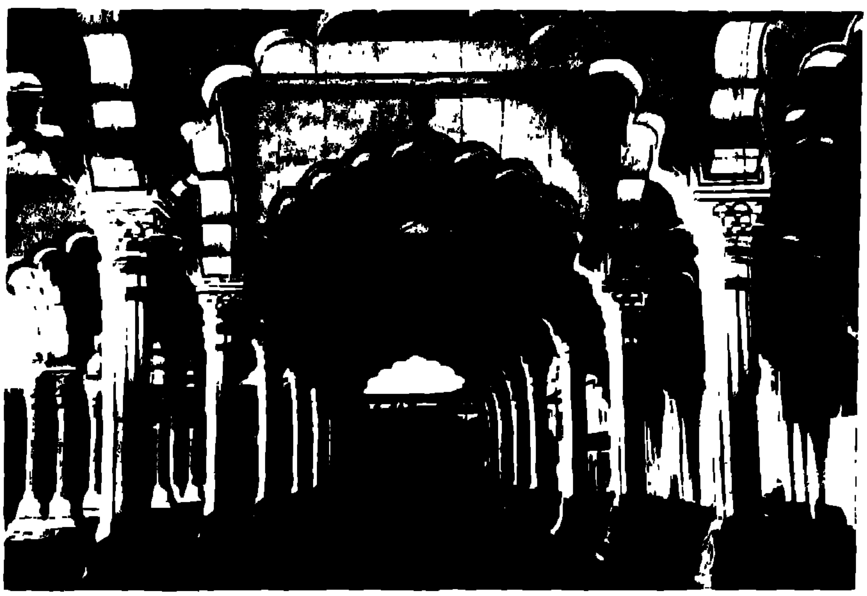
Of the administrative buildings in the city of Fatehpur Sikri, undoubtedly the most distinctive is the *Diwan-i-Khas* or Hall of Private Audience, not a large structure but conceived in an unusual manner. Externally it is not dissimilar in style from the other secular edifices, as it is rectangular in plan and in two stories having a flat terraced roof with a pillared kiosk rising above each corner. But its interior arrangements are unique, and it is here that one seems to be in closer touch with the somewhat elusive personality of Akbar the Great, the creator of this vast array of buildings as it is clear he devised the interior of this hall to suit his own individual motives and attitudes. In the single chamber of which this audience hall is composed, the principal architectural feature is a large and substantial pillar occupying a central position with its massive expanding capital supporting a circular stone platform. From this central platform stone "bridges" radiate along each diagonal of the hall to connect with hanging galleries which surround its upper portion. The idea underlying such a curious structural contrivance was that the emperor would sit enthroned on the central platform while listening to arguments from representatives of the different religious communities gathered there, the whole arrangement signifying what has been termed his "dominion over the Four Quarters." The main architectural object in this interior is the central column, its variously patterned shaft branching out into a series of thirty-six closely set voluted and pendulous brackets carrying the throne platform, a most original conception not without artistic merit. (Plate LXXII, Fig. 2.)

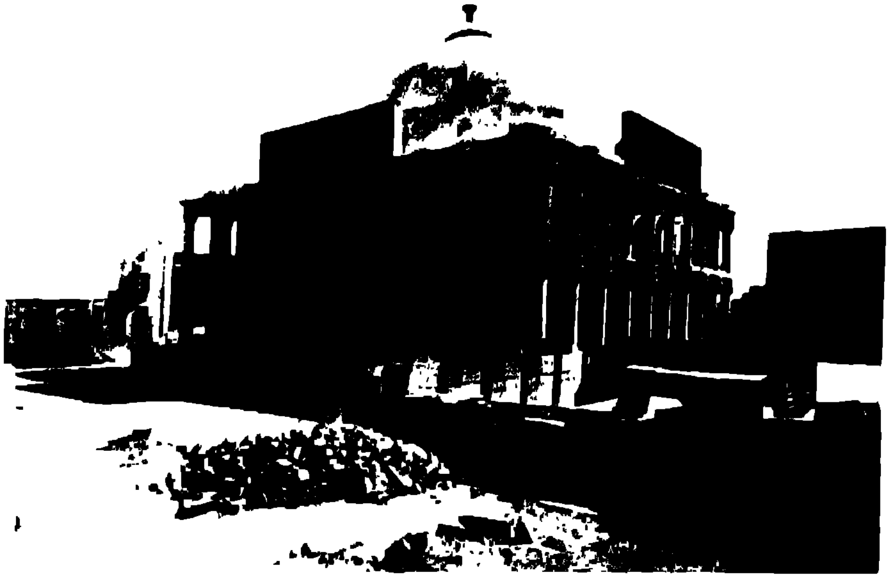
There are many other buildings of an official or miscellaneous order in this city, and although each is designed to serve its own particular purpose, their architectural style is merely a variation of the general principles employed in those already described. Such are the *Panch Mahall* or "Palace of Five Stories," the *Khwabgah* or "House of Dreams," the "Astrologer's Seat," the "Department of Records," and numerous other structures all having much the same architectural character. In each of these buildings the treatment of the exterior is remarkable for its appearance of horizontality due to the constant use of the exceedingly wide eaves and the deep shadows they cast across the elevation. Added to this there are the horizontal lines of the parapets and also the string-courses all of which emphasize the same effect. There is of course the counteracting influence of the pillars and brackets which introduce useful vertical passages of light and shade, but the broad horizontal masses and the level lines are the keynote of the external design. As to the interior, few of the apartments are of any size but they are usually of pleasing proportions and the pillars with their pendant brackets, the balconies, alcoves, and other mural embellishments are elegant works of art and disposed throughout the building with the best of taste.

But undoubtedly the most impressive part of Fatehpur Sikri is that formed by the group of structures of a religious nature, in which the Jami Masjid predominates. As a whole it consists of a combination of four buildings, namely (1) the Great Mosque itself, (2) its southern gateway or *Buland Darwaza*, (3) the tomb of the saint Salim Chisti within the courtyard, and (4) the mausoleum of Islam Khan on the northern side. Originally the scheme included the mosque only, a perfectly symmetrical conception covering a rectangular area measuring 542 feet by 438 feet with an interior courtyard of unusually large dimensions. This building was begun in 1571, and about the same time the tomb building over the grave of Salim Chisti situated towards the northern side of the courtyard was also commenced. When first constructed the mosque was entered by three portals, one in the middle of each of the north, south and east sides, but now only one of these, the eastern or King's Gateway remains unaltered by subsequent additions. From the size of its plan it will be seen that this mosque ranks among the largest of its kind in the country, while in architectural treatment it is a most finished and typical example. In design it is of the conventional mosque order consisting of a wide open courtyard with pillared cloisters on three of its sides and the western end occupied by the sanctuary. It is the masterly manner in which this sanctuary has been formulated and executed that gives this mosque its fine character.

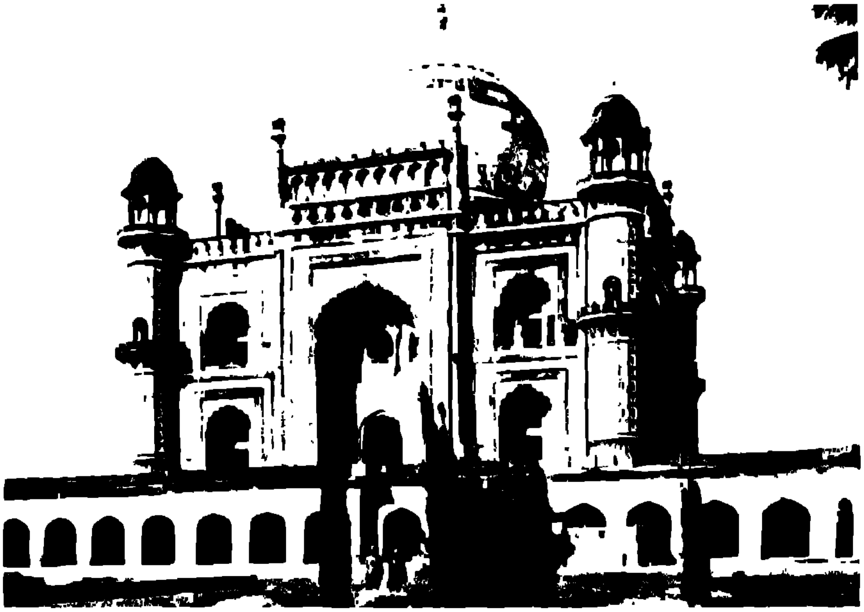
As in not a few of the larger mosques of India the fine open sweep of the flagged quadrangle leading up to the main interior facade produces at once an effect









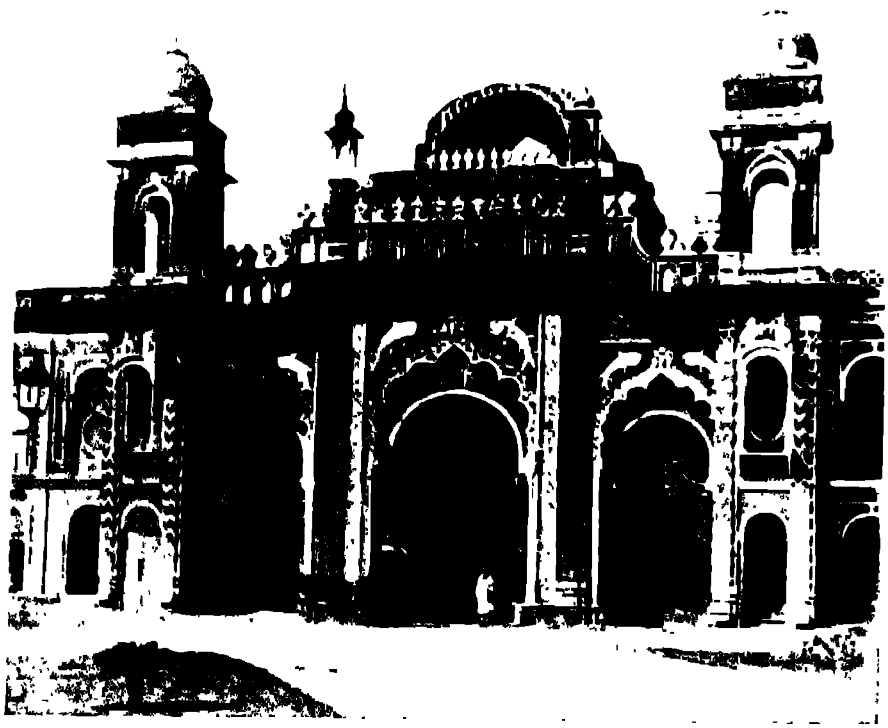


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XCII





of great dignity and spaciousness. (Plate LXXIII, Fig. 1.) In this instance the facade consists of a large rectangular front on in the centre containing a spacious alcove, with a pillared arcade extending on each side to form the wings. Behind this central feature rises a large dome and there are smaller domes over each wing, with ranges of pillared kiosks, along all the parapets to break the skyline. As in all good building these exterior features are definitely related to the arrangements of the interior. The interior of the sanctuary, therefore, resolves itself into a nave, to which the three doorways in the alcoved fronton form the entrance, while the aisles on each side correspond to the arcaded wings of the facade. The nave which is entered through an arched portico, is a square hall containing on its western side the principal *mihrab*, and is covered by the main dome. (Plate LXXII, Fig. 1) Leading out of this central hall through archways are the aisles, each with a chapel towards the middle of its length, with the side domes forming their roofs. Much of the variety in the effect of this interior is obtained by the open spaces of the nave and side chapels contrasting with the pillared aisles by which these are connected. The pillars in the wings are exceptionally well grouped and apportioned so that from any angle an elegant vista is observable. Added to this is the admirable combination of beams and arches, disposed in such a manner that the balance of the two constructional systems is well maintained throughout, the arches providing attractive passages of perspective and the lintels with their pendant brackets enriching the intervals between.

Such is the architectural formation of the sanctuary, but reference should also be made to the mural decoration, which is distributed over most surfaces of the interior, especially in the nave and in its adjacent compartments. All the technical resources that the craftsmen concerned had at their command were used for this embellishment so that the carved, painted, and inlaid ornamentation is unsurpassed in any other building of Akbar's reign. No description could do adequate justice to the diversity of patterns that are applied to the fabric of this fine structure but it is as if the artists had taken as their model the pages of an exquisitely illuminated manuscript and enlarged these with their jewelled geometry of line and colour to enrich the spaces on the walls.

Some twenty-five years after the completion of this mosque, Akbar returned from his victorious campaign in the Deccan, and was considering a site on which he could erect a great triumphal archway commemorative of his conquests. He finally decided on the southern entrance of the Jami Masjid at Fatehpur Sikri as being a suitable position for this monument, and he accordingly proceeded to demolish the existing doorway and raise the *Buland Darwaza* or "Gate of Magnificence," in its place. (Plate LXXIV.) This gateway is a most imposing structure as its height is 134 feet, added to which it is approached by a steep flight of steps 42 feet high so that the entire composition rises to a total height of 176 feet above the roadway. Across its front it measures 130 feet while from front to back it is 123 feet thus presenting from every point of view a mass of masonry of immense proportions dwarfing every other building in the city. There is little doubt that of all the architectural productions of the Mughuls, their gateways were the most successful achievements, whether these were the bold entrances to fortresses, the more humble doorways to *sarais*, the elegant portals to tombs, the porticos to palaces, or the civic archways, of the cities, they were invariably not only satisfying examples of the building art, but each one admirably fulfilled its purpose. It is questionable which is the finer effort, the Delhi Gate of Agra Fort already described, or this monumental gateway at Fatehpur Sikri, but the latter is manifestly the more spectacular, and such it was intended to be. The Buland Darwaza is a work of great force, especially when viewed from the ground below, as then it presents an appearance of aspiring and overwhelming strength without being weighty or pretentious. Its position, it is true, is open to criticism as the line of approach up an ascent through what were probably service quarters and past the *hammams*, was not ideal, and even more significant from the architectural point of view is that owing to its vast size it dominates everything in its vicinity and thus throws out of balance the scheme of the mosque to which it is attached; the eye is first attracted and then deflected by its great bulk instead of being drawn naturally towards the edifice of which it should logically form a subordinate part.

The entire structure of this triumphal gateway may be resolved into its two aspects, the frontal and highest aspect, forming the facade with its portal, and the back view consisting of a lower and plainer portion intruding itself into the mosque courtyard. As projected by its designers the main effect is produced by the front view with its facade embowed by means of three planes comprising a large central face and a lesser one on each side receding at an angle. The central plane which is 86 feet across is rectangular in shape, the greater part of its surface being occupied by an arched and domed recess, while the narrower faces on its wings are in three stories with varied openings in each stage. The most striking feature of this facade is the large arched recess in the centre, the semi-dome of which is carried on five surfaces in the form of a half-decagon, down to the ground. By the skilful manipulation of these surfaces the designer has correctly related the crescendo of the great alcove above with the diminuendo of the man-height doorway at its base. Crowning the whole of this facade is as handsome perforated parapet behind which rises a range of kiosks, the regular line of their cupolas acting like guardian sentinels to relieve the skyline. The rear portion of this gateway in comparison with the frontal aspect is less impressive in appearance but is a fine mass of masonry consisting of three arched entrances and a parapet in two stages so designed to accord, as far as its great scale permitted, with the arches and colonnades of the mosque interior with which it is conjoined.

A feature of this stately structure is the decorative treatment of its outer facade, the main element in its composition being the wide border emphasizing its

rectangular formation. Such a shape provides ample space for a continuous ornamental inscription, as most of the Islamic architecture of this order plainly testifies. Originally introduced into the decorative scheme of the facade of the first mosque erected at Delhi, it figures throughout the style in varying degrees of prominence, until in this crowning monument raised by Akbar it assumes special importance not only on account of its size but for the famous message it conveys carved in the beautiful lettering of the time. This message may be quoted as it expresses this royal builders ultimate belief and his method of broadcasting it to mankind.

> 'Jesus Son of Mary (on whom be peace) said: The world is a bridge pass over it; but build no house upon it. Who hopes for an hour, hopes for eternity. The world is an hour. Spend it in prayer, for the rest is unseen.'

Turning to the other notable structure associated with this mosque, namely the tomb of Salim Chisti situated within its cloistered quadrangle, compared with the foregoing the spectator is confronted with a complete change of aesthetic and architectural values. On the one hand the Buland Darwaza represents the building art in a grandiose mood, massive and purposeful, the tomb on the other hand is an architectural cameo, its chaste marble forms being aerial in their delicacy, so that it appears as a chiselled, polished and fretted exquisiteness. But this small edifice had not always such a silvery grace. When first constructed, at a time relatively contemporary with the foundation of the mosque, it was most probably a sandstone conception in the style of that period. Its present appearance is due to a later development, possibly that which prevailed at the end of Jahangir's reign or the beginning of that of Shah Jahan, when the authorities were inspired to transform its sandstone fabric into the more refined and costly marble, but retaining its previous shape and character, enriching and elaborating it with additional details in the course of this process.

The tomb building itself is of simple parts as if consists of a square exterior of 24 feet side and containing a mortuary chamber of 16 feet diameter, the whole being covered by a low dome. Around the outside a wide verandah is carried, its roof supported on pillars with the interspaces filled by perforated screens, the total exterior measuring 48 feet in diameter. On the southern face a porch is projected, also on pillars, and there are carved brackets all round to sustain the extremely wide eaves. In general appearance this building is low and somewhat unimpressive, its effect depending not so much on its proportions or composition but on the elegant material of which it is constructed and the fanciful and almost etherial manner in which this material has been handled. Among its distinctive features are the pillars around the exterior, particularly those forming the porch with their honeycomb capitals, and the brackets springing from their patterned shafts. These brackets or struts are unique in their design as each consists of a long serpentine volute with the spaces between the curves filled in with perforated foliations, the whole having more the appearance of carved ivory than chiselled marble. Their prototype may be seen in the temples of Gujarat, but in none of these buildings have they attained quite the refined exuberance as in Salim Chisti's tomb. Structurally these supports have little value, they are almost entirely decorative and produce an effect more fantastic than beautiful, suggesting the unrestrained imagination of the temple-builder rather than the rationality and reserve of Islam. But they represent an age when, in the words of the founder of the Mughul dynasty, the emperor Babur, in describing the productions of his Timurid ancestors—"whatever work a man took up he aimed and aspired to bring it to perfection". (Plates LXXIII and LXXVI.)

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CHAPTER XIX

THE MUGHUL PERIOD

JAHANGIR (1605-27): THE TRANSITION FROM STONE TO MARBLE

IN comparison with the ceaseless architectural activity that was maintained during the greater part of Akbar's reign, the period of the rule of his son and successor, Jahangir, was, in the field of the building art relative uneventful. This emperor's aesthetic predilections lay in other directions, as he it was who patronized so enthusiastically the school of miniature painting that is associated with the Mughul regime, and whenever constructional work was contemplated, it more frequently took the form of laying out large formal gardens and similar ornamental retreats rather than the erection of architectural monuments. Yet in spite of this partiality for the minor arts the main structure of one of the most remarkable buildings of the Mughul period was produced during the earlier years of Jahangir's reign, and one in which he was constrained to take a certain amount of personal interest. This was his father's mausoleum at Sikandra near Agra, a conception of such magnitude that it was not completed until 1613, or eight years after Jahangir had ascended the throne. It has now been established that the larger portion of this structure was effected under Jahangir's authority, only its situation and plan with some idea of its general appearance having been settled before Akbar died. It is not improbable that had this emperor lived to supervise its erection he would have seen to it that a more homogeneously designed monument to his memory was handed down to posterity. Compared with the tomb of Humayun for example, built nearly fifty years earlier, Akbar's mausoleum is an architectural retrogression, but on the other hand one of the chief objects of its creators was obviously the production of an original composition, a departure from the conventional domed structure which had hitherto prevailed. Such an ideal was proof that the art was at least a living one and not lacking in movement, but those concerned did not appear to realize that originality, unless it is combined with correct vision and the application of right principles, is not likely to result in an entirely satisfying work of architecture. As will be shown, this great monument at Sikandra is deficient, mainly for these reasons, in the essentials of coherence and mass. (Plate LXXV.)

The scheme of this mausoleum was conceived on a large, if not grandiose scale, as its perimeter walls enclose a garden of great size, while the tomb building in the centre is in plan a square of 320 feet side with a total height of over 100 feet. In the middle of each side of the outer enclosure wall is a gatehouse, three of these being false doorways added for symmetry, but that on the south is the main entrance. All these gateways are sufficiently imposing to form minor monuments in themselves, particularly the one comprising the entrance as this is a structure of exceptional elegance for in addition to its pleasing proportions and bold inlaid ornamentation, it is provided with four graceful white marble minarets, one rising above each corner. Until now a minaret of this type had not appeared in the architecture of northern India, but here it emerges for the first time, not however, as an experiment, but perfectly developed and in its exact and final form. Entering through this portal the plan of the ornamental gardens leading up to the central structure, although partly obliterated, may still be determined, its arrangements showing how the garden designer and the builder collaborated with the object of co-ordinating each element in order to produce an unified composition. The wide sweep of the flagged causeways each expanded at a suitable interval into a square terrace containing a fountain and sunk basin, together with other appropriate expedients, prove how carefully this garden approach had been worked out in relation to the architectural scheme as a whole.

The tomb building in its general outlines takes the shape of a low truncated pyramid, built up in three stories, these consisting of, first, a massive terrace comprising the basement, above this an orderly arrangement of red sandstone pavilions in three tiers forming the middle portion, and crowning all an open court, surrounded by a marble screen producing the uppermost story. The basement or ground story is a superb conception, over 300 feet side and 30 feet high, having a series of arches recessed within its four sides. Interposed in the centre of each of these sides rises a tall rectangular structure, containing an arched alcove, while above the parapet of this feature is a graceful marble kiosk breaking the skyline in an effective manner. By means of a doorway in the southern alcove, access is obtained through a corridor to the tomb chamber, a small cell confined, not unlike those in some of the Egyptian pyramids, within the womb of the building itself. (Plate LXXV, Fig. 2.) All this lower portion of the scheme is so substantially conceived and on such a satisfying scale that it seems not unlikely the foundational story was in course of construction during the last years of Akbar's reign. But here the influence of this vigorous and versatile monarch apparently ended, for it is in the story immediately above, consisting of the ranges of sandstone pavilions, that the composition becomes light and fanciful and out of place over such a powerful substructure as that presented by the ground story. Although an elegant grouping of arcades and kiosks there is a want of weight and firmness about this central portion of its conformation, its conflicting lights and shadows producing an effect of instability; such an appearance at this stage of its erection implied that here it may have been that Jahangir interposed while the work was in progress and ordered what had been already built to be demolished and "reconstructed at a cost of fifteen lakhs of rupees."

An alteration of such a costly nature betokens some material modification in the body of the building, and it is not improbable that the middle story was then rebuilt more in accordance with this monarch's architectural ideals. It is quite easy to understand that these ideals differed from those of his parent—there was a clashing of temperaments between father and son, of which this building may be a symbol—and during the latter's reign the building art, as will be shown later, was inclined to assume a pretty, rather than a forceful character. Some such influence may account for this manifestly inconsequential portion of the project.

Turning now to the uppermost story of Akbar's mausoleum this crowning feature presents a marked contrast to the rest of the building as it is all composed of white marble. A massive structure with a solid projecting cornice, its appearance is lightened by being contained within a range of delicately perforated screens while above each corner rises a tall and graceful kiosk. The interior of this story is an open court surrounded by arcaded cloisters, with an exquisitely carved cenotaph occupying the centre. In many respects the unroofed terrace and its refined treatment is an appropriate finish to the building as a whole, although Fergusson was of the opinion that this portion was incomplete as it was intended to surmount it with a dome which would provide a suitable apex to the pyramidal elevation and at the same time protect the fine workmanship of the cenotaph.[1] To sum up, this mausoleum is one of the most ambitious productions attempted by the Mughuls, yet although a superb effort the result is architecturally ineffective as it lacks substance and volume as well as the qualities of unity and definition. In these defects and equally in its merits, there seems reflected that artistic but irresponsible nature of the monarch under whose direction the creative part of the monument took form.

There were other examples of architecture produced during the reign of Jahangir which show the trend of the building art at this juncture, such as the western gateway to a Sarai at Jullundur, a small but attractive structure although somewhat of the "precious" order, as the designer has aimed at a nicety of detail rather than breadth or strength. But the outstanding architectural production of the later years of this emperor's rule was his own mausoleum at Shadera near Lahore, most of which was probably constructed after his death under the order of his remarkable consort, Nur Mahall Begum. (Plate LXXVIII, Fig 1.) This tomb, as was becoming the custom of the Mughuls, occupies the centre of an immense garden, square in plan and over 1500 feet side, on the old bank of the Ravi river. Enclosed by a high brick wall with a gateway in the middle of each side this garden is one of the largest and also the most conventional of its kind, as it is divided up into sixteen equal squares by means of paved causeways, while a fountain and ornamental pool were placed at each intersection. In every one of these parterres a different flower was grown so that the whole, in its season, might be an orgy of colour. Within the centre of this formal lay-out stands the tomb building, also square in plan and of 325 feet side, a structure of one story only but with handsome octagonal minarets in five stages rising up from each corner to a height of nearly 100 feet above ground level. When first built a marble pavilion graced the central portion of the roof of the tomb, which would have added to its artistic appearance, but this has since disappeared.

No capacious interior effect was aimed at in this mausoleum, it was evidently to be regarded more as a monumental reliquary than a mortuary hall. The internal arrangements, therefore, consist of a corridor leading to a range of rooms continued right round the outer sides of the building, and a series of compartments, one leading from the middle of each side to the tomb chamber in the centre of the whole. This vaulted chamber which contains an exquisitely inlaid marble cenotaph is illuminated by a simple aperture in the centre of the ceiling, but this was originally screened and protected by the pavilion referred to above. Architecturally this mausoleum, except for the four minarates is unimpressive, its principal effect being obtained through the applied colour decoration distributed freely over all its surfaces. In providing this embellishment several processes were called into requisition, such as fresco painting, inlay, and mosaic tiles, the colour work being used in the interior, the inlay on the pavements and sides of the minarets, the tiles on the dados of the corridors, while semi-precious stones enrich with graceful scrolls the white marble of the cenotaph. Viewed as a whole there is in its spaciousness and its setting something of the character of the nature-loving monarch whose remains it enshrines, his preference for wide terraced gardens glowing with flowers and brilliant colouring generally, recalling similar qualities in his famous ancestor Babur, both of whom seem to have been as much interested in the works of nature as in those of man

Before this earlier phase of architecture under the Mughuls merged into the later, one building was constructed which may be regarded as the connecting link between the style of Akbar and that of Shah Jahan. This is a tomb at Agra of Itmad-ud-Daulah, a distinguished nobleman, and the father of Jahanger's queen Nur Mahall, by whom it was built in 1626. (Plates LXXIX and LXXX.) Apart from definitely marking the stage of transition this small but elegant structure stands in a class by itself as it illustrates a fresh interpretation of the building art, an expression of the style in its most delicate and refined aspect, disregarding size but aiming at exquisite finish. In the seclusion of a walled enclosure of 540 feet side this mausoleum stands in a garden recalling an abbey cloister-gart, with sombre green cypress trees set sculpturesquely against gateways of red sandstone. Surrounded by a formal scheme of lawns, parterres, flagged pathways, tanks and fountains, the tomb building, in flawless white marble, reposes like a gem within its casket. It is square in plan and only 70 feet in diameter, its design comprising a central structure with broad octagonal towers in the form of minarets thrown out from each angle, and a

[1] *Indian Architecture* (1910) Vol II, p. 300.

small pavilion or kind of upper story rising above the roof. Three arched openings in each side produce an appearace of depth, while cornices on brackets and a wide eave to the upper portion provide horizontal lines and shadows emphasizing the sense of quiet peacefulness which pervades the conception as a whole.

The interior of the ground story consists of a series of rooms and passages corresponding to an enclosed verandah which surrounds a central chamber containing the cenotaph ; the pavilion above is a square compartment its walls formed of screens of the finest marble tracery, and on its patterned and polished pavement are two yellow porphery cenotaphs. (Plate LXXIX, Fig. 2.) As an example of architecture in miniature this building with its accessories of garden and gateways is one of the most perfect of its kind, while its fineness is enhanced by the exquisite white marble of which the central structure is entirely composed. Then, although elaborately ornamented, the embellishment throughout has been carefully subordinated to the architectural effects, there is little relief work, most of the surface being delicately coloured by means of inlaid stones. The result of such treatment is that any undue brilliance of the white marble is subdued by the subtle tints of the inlay which spins its fine filaments over every portion, often in painted patterns only excelled by those of a butterfly's wing. Much of this ornamentation of applied stones was produced by a technical process different from that which had preceded it, so that these later Jahangiri buildings not only mark a change in the architectural style but also in the method of decoration. Hitherto the inlaid work had been of the kind known as *opus sectile*, a marble intarsia of various colours, but from now onward the art took the form of that called *pietra dura* in which hard and rare stones such as lapis, onyx, jasper, topaz, cornelian and the like were embedded in the marble in graceful foliations. The tomb of Itmad-ud-Daulah prefigured that phase of white marble garnished with gold and precious stones which distinguishes the final and most sumptuous architectural creations of the Mughuls.

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CHAPTER XX

THE MUGHUL PERIOD
SHAH JAHAN (1627-58): THE REIGN OF MARBLE

WITH the reign of the emperor Shah Jahan the golden era of Mughul domination was attained, a period which found expression in style of architecture of exceptional splendour, and carried to the highest degree of perfection. In the sphere of the building art it was an age of marble, this material in its most refined from taking the place of the sandstone hitherto largely employed, so that architecture received a new impressiveness during this regime. The preference of Shah Jahan for buildings of this kind is graphically shown by the fact that he caused to be dismantled many of his predecessors' sandstone edifices with the sole object of substituting others of a more polished type. Nowhere is his policy more strikingly illustrated than in the fort at Agra, where in the series of palaces occupying the western area, the division between the two phases of the Mughul style is plainly demarcated. Here one may pass in a stride from the sandstone buildings of the latter half of the sixteenth century as exemplified by the Jahangiri Mahall, to the marble pavilions of the first half of the seventeenth century as represented by the Khas Mahall, in other words from the robust productions of Akbar to the voluptuousness of Shah Jahan.

Such a change in the substance of the building art naturally brought with it a corresponding change in its temper and treatment. Marble, specially of the textural quality as that obtained from the quarries of Markrana in Jodhpur State, provides its own decorative appearance owing to its delicate graining, and any ornamentation requires to be most judiciously, almost sparingly applied, otherwise the surfaces become fretted and confused. Mouldings have to be fine and rare in their contours and plain spaces are valuable as they emphasize the intrinsic beauty of the material, so that restraint has to be invariably observed. The forms therefore of this style are essentially marble forms, while the decoration is only occasionally plastic, such enrichment as was considered essential being obtained by means of inlaid patterns in coloured stones. With this change in technique there ensued a change in the larger architectural elements of the style. Particularly noticeable is the alteration in the character of the arch, the curves of which were now often foliated, usually in each instance by means of nine cusps, with the result that white marble arcades of engrailed arches became a distinguishing feature of the period. The dome also assumed another form, as the Persian type, bulbous in its outlines and constricted at its neck found favour, the adoption of which brought with it the system of true double doming derived from the same source. Other developments were the introduction of pillars with tapering or baluster shafts, voluted bracket capitals and foliated bases; added to these were structural ornamental elements of a curvilinear order, the fluidity of line from and sensuousness generally reflecting those exalted conditions that not uncommonly prevail when a ruling power has attained its greatest elevation.

The replacements by the emperor Shah Jahan of the stone buildings in the palace-forts of Agra and Lahore by marble pavilions appear to have been carried out intermittently during this monarch's reign, some of these newer structures being early examples while others were added when the style had arrived at its ripest state. For instance at Agra, the first of these marble halls to be built was the *Diwan-i-Am*, dated 1627, the same year that Shah Jahan ascended the throne; this was followed some ten years later by the *Diwan-Khas*, the double columns of which are among the most graceful of all those produced during this reign (Plate LXXXIX); finally there was that superb example the *Moti-Masjid*, or Pearl Mosque, which was not added until as late as 1654. At varying intervals the others of this range of marble palaces and pavilions were erected such as the Khas Mahall, the Shish Mahall, the Nagina Masjid and Musamman Burj with its adjacent portico containing a lovely sunk fountain, each conception executed in the most chaste and exquisite manner. Of all these elegant marble creations none can equal in refinement the Moti Masjid, a matchless example of the style. Not only does this mosque building show an unrivalled mastery of the material as well as the extent to which it may be artistically manipulated, but its architectural treatment is thoroughly and organically sound. Its chief qualities may be observed in the felicitous proportioning of the arcades in the facade, the skilful contrasting of these with the colonnades of the cloisters and arched entrances, the delicate shape and melodic disposition of kiosks over the parapet, the subtle effect produced by raising the central dome on its drum, and above all in the flawless nature of the material, all of which have combined to give this building an appearance of rare and moving beauty.

The alteration in the group of palaces within the fort of Lahore were similar to those effected at Agra, a number of Akbar's sandstone structures being swept away to make room for pavilions of a more approved type. In their place rose most of the buildings towards the northern side of the enclosure such as the Diwan-i-Am, the Khwab Garh, the Shish Mahall, the Musamman Burj and the Naulakha, but some of these have again been subjected to modifications and elaborations at a later date. (Plate LXVII, Fig. 1.)

The introduction of marble structures into the sandstone fortresses originally devised by Akbar was, however, mainly a preliminary procedure, a preparation for the magnificent architectural schemes undertaken by Shah Jahan which have given such distinction to

the Mughul regime. One of the first of these was the result of the emperor's resolution to transfer the seat of the empire from Agra to its original position at Delhi where in 1638 he began to lay out the city of Shahjahanabad on a site on the right bank of the river Jumna. The principal feature of this project consisted of a palace fortress for his own accommodation on a larger and more comprehensive scale than any previously produced, thus forming a city within a city. At Delhi therefore there arose at this monarch's decree the last and finest of these great citadels, representative of the Moslem power in India, the culmination of the experience in building such imperial retreats which had been developing for several centuries. And what gives additional architectural value to this particular achievement is that it was the conception of one mind, executed according to the requirements of one authority, and thus carried out in a systematic and uniform manner. It is also noteworthy for the fact that according to contemporary records the more important portions of the work were designed and executed under the personal direction of Shah Jahan himself. Unfortunately subsequent events have caused considerable parts of this great composition to be either dismantled or shorn of much of its magnificence, although enough remains to give some idea of it as originally planned. (Plate LXXXI.)

The fort of Delhi in plan approximates an oblong 3100 feet long and 1650 feet in width and is aligned from north to south, an orientation no doubt so devised as to prevent the symmetry of the whole being disturbed by the fixed orientation of the mosques, a defect which is only too obvious in the plan of his predecessor's capital at Fatehpur Sikri. This parallelogram at Delhi is enclosed within a high and strongly fortified wall in which there are two main gateways, one in the middle of the long side on the west and another on the south side, the former being the principal and ceremonial entrance, while the latter is for more private use. From these gateways two thoroughfares pass into the fort interior, intersecting one another at right angles towards the centre of the composition, the main approach from the western entrance, or Lahore Gate, taking the form of a broad vaulted arcade, a most imposing introduction to the inner precincts. These two thoroughfares communicate directly with a large rectangular area occupying nearly two-thirds of the whole space, and itself contained within surrounding walls, in a word an enclosure within an enclosure. This inner area, measuring 1600 feet by 1150 feet, its further side aligned along the eastern rampart thus overlooking the wide expanse of the river bed, accommodates the whole of the private and royal apartments; outside this, and within the rectangular space remaining are the service quarters, such as barracks, servants' houses and other edifices of a miscellaneous order. It is in the former enclosure, therefore, that the palaces and pavilions are located, and here the finest architecture is to be found, this portion having been planned according to the most palatial ideals.

This palace enclosure which is nearly symmetrical in its arrangements resolves itself into four parts. (1) a large central quadrangle containing the Diwani-Am or Hall of Public Audience; on each side of this are (2) and (3) consisting of two square open spaces designed in the form of ornamental gardens and courtyards, while (4) is the range of marble palaces, one side facing the gardens and the other commanding an open view of the river. Every feature of this plan is regular and formal, most of it being laid out in squares, there is hardly an oblique line or curve in the entire scheme. The finest art was lavished on the succession of palaces along the eastern wall so that when in its prime no series of buildings could have been more resplendent. (Plate LXXXII.) As originally planned there were at least six of these marble structures rising at irregular intervals above the ramparts, their balconies, oriel windows and turrets surmounted by gilt cupolas giving this outer aspect of the fort a picturesque and romantic appearance. On their outer side these pavilions were closed except for screened windows and other similar openings, their pillared frontages and more stately architectural effects being reserved for the inner facades looking out on the gardens inside the fort enclosure. Included in this range of buildings, besides the palaces, were a hall of private audience and a luxurious *hammam* or bathing establishment, and between each structure there were wide courts and terraces protected by graceful balustrades or perforated screens on the rampart side. Two of these buildings were larger than the others and of exceptional richness in their architectural and decorative treatment, typical of the style in its most opulent mood. Such are the Hall of Audience and the Rang Mahall, and from these two examples it is possible to study not only its architecture but to recall some of the past life and thus to revive the dead glories of this remarkable conception.

In the broad features of their architecture these two buildings have much in common, and these features again are common to the style as a whole. Each structure takes the form of an open pavilion in one story, their facades of engrailed arches shaded by a wide eave, or *chajja*, above which rises a parapet and from each corner a graceful kiosk. The interiors also consist of engrailed arches in intersecting arcades which divide the whole space into square or oblong bays, each bay having a cavetto or cyma recta cornice and a flat highly decorated ceiling. There are no pillars, their place being taken by massive square or twelve-sided piers, a formation which also gives a spacious soffit to the arches, a factor having no little influence on the effect. For, viewed from any angle, owing to the double and sometimes fourfold outlining of the underside of the arches, these interiors present a perspective of flowing curves and arcuate shapes, of volutes and crescentic forms, expressive of the soft luxurious use to which these structures were applied. In addition there is the ornamentation distributed over every portion, of gilt, coloured, and inlaid patterns in sinuous scrolls and serpentine lines accentuating that atmosphere of voluptuousness with which these buildings were so obviously associated. Within the traceried foliations on the walls, piers, and arches, conventional flowers were freely introduced, roses, poppies, lilies, and the like, for the Mughuls were flower worshippers, not content with those growing naturally in the gardens

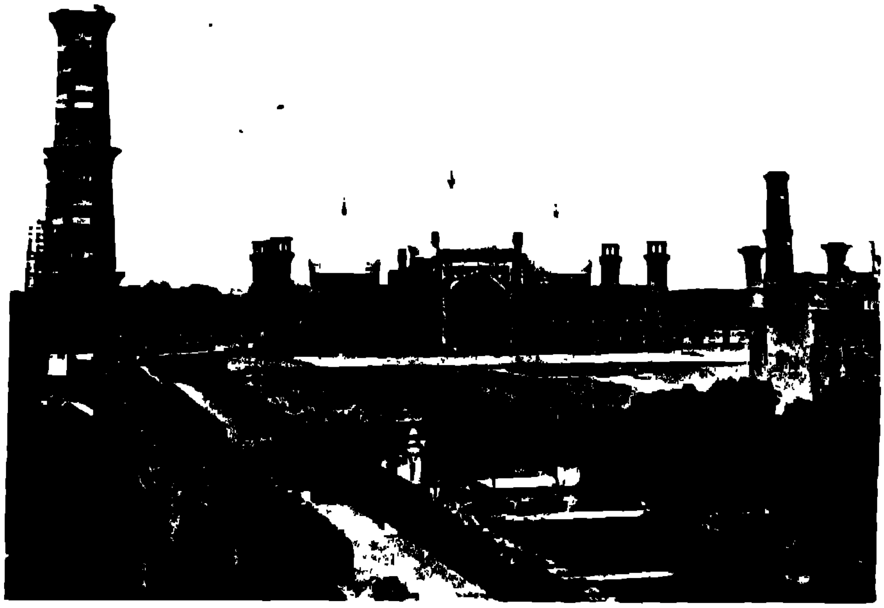
outside, but they craved for pictures of them always before their eyes.

Of these two buildings, the Rang Mahall or "Painted Palace," and the Audience Hall, the former is perhaps the more lavishly ornate and may be regarded as the crowning jewel of Shah Jahan's seraglio, so much so that its beauties moved a contemporary chronicler to exclaim that "in lustre and in colour it is far superior to the palaces in the promised paradise." In plan the dimensions of the Rang Mahall are 153 feet by 69 feet and it consists of a main central hall with smaller compartments at each end. This central hall is divided up into fifteen bays each twenty feet square by means of ornamental piers, the general effect being that of a pavilion or loggia of elegant proportions with all its parts admirably spaced Originally its exterior arches appear to have been filled in with perforated marble screens, and there were triple arches of lattice work placed across the centre of each side, so that its privacy was complete. Equally well planned is the other palace, the Diwan-i-Khas, but it is more open in its arrangements as it is formed of one large hall 90 feet by 67 feet and its facade consists of an arcade of five equal arches with others of varying sizes skilfully disposed on its shorter sides, thus providing a cool and airy interior, as no parts are enclosed. This interior is divided into fifteen wide bays by means of engrailed arches supported on square marble piers, while the eastern side overhanging the rampart has arched window openings and elegant perforated tracery. With its pavement of polished marble, reflecting the massive piers enriched with inlaid flowers, and its foliated arches picked out in gold and colours, a textural effect causing the whole interior to be illumined by a soft mellowness, this building, in some of its aspects, rivals the Rang Mahall in an appearance of exuberant grace.

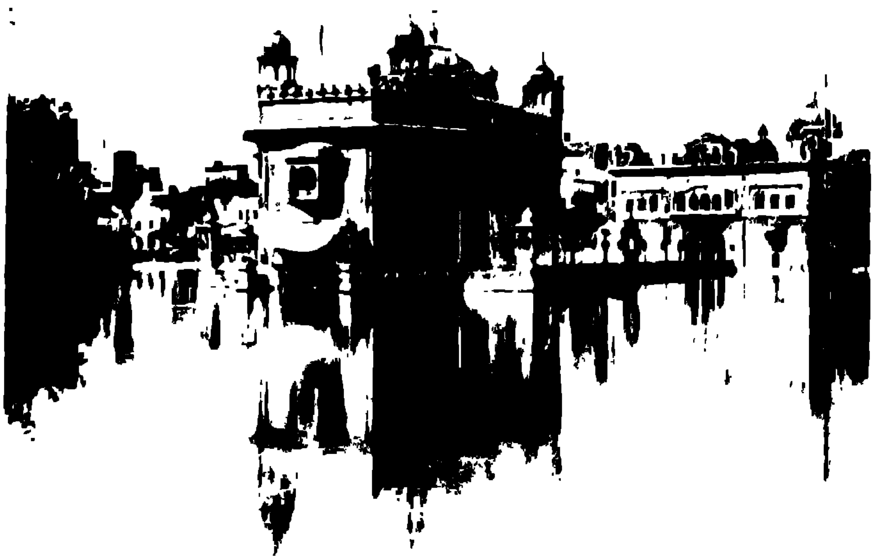
An important amenity in the composition of this fort, and a factor having some bearing on the planning and arrangement of the palace portions was the provision of a full and continuous supply of water distributed throughout the entire enclosure. This was brought by means of a conduit called the *Nahar-i-Bahisht*, or "Canal of Paradise," which entered the fort through a sluice under the Shah Burj, or Kings Tower, at the north-east corner. Such a constant stream enabled the chain of gardens to be ornamented with fountains, cascades, waterfalls and pools enchantingly disposed and designed and also furnished the extensive and gorgeous *hammam* (bath) adjacent to the palaces with its requirements. But one of the chief objects of this supply was to arrange for it to be carried by channels under and around the marble pavements of the royal pavilions, so contrived that each apartment included all the accompaniments of a water-palace. No one knew better than the Indian of these parts how to make the best use of flowing water, as irrigation is the groundwork of his agricultural life, and this age-old experience combined with an inherent artistic nature produced accessories to the architectural effect which for appropriateness of position and intrinsic beauty of form are unrivalled. Among these the fountain and its setting in the Rang Mahall, besides being a gracefully ornate conception, accords perfectly with its architectural surroundings. It consists of a shallow marble basin sunk in the pavement and occupying the entire middle, bay of twenty square feet side, the perfumed water bubbling up out of a silver lotus flower on a slender stem rising from the centre. The design of the basin also represents a large lotus-form of delicately modelled petals contained within a square bordered frame, the whole patterned so exquisitely as to move a contemporary writer to remark that "the waving of the plants and flowers under the dancing water was nothing less than a scene of magic." This fountain was only one of many elegant conceits in which the artists employed made free use of their fancy, so that not a little of the charm of these palaces was due to such pleasing artistic devices reflecting the imaginative and sensuous conditions that then prevailed.

The remaining prominent structure in this royal portion of the fort, as already observed, is the Diwan-i-Am or Hall of Public Audience, which although not so decoratively treated as the palaces, was designed in such a manner as to be admirably suited to the purpose it served. For it was not a pleasure resort, as were the marble pavilions at its rear, but a place for the transaction of official business, so that there is a certain restrained stateliness in its architectural character. As originally planned the complete scheme consisted of a square courtyard surrounded by a colonnade with this open pillared hall on its eastern side, but all these supplementary structures have since disappeared What remains is the hall itself, a sandstone building measuring 185 feet by 70 feet its facade formed of an arcade of nine arches with double pillars between each arch and a group of four at the corners. Three aisles of pillars with engrailed arches form the interior, aggregating some forty pillars in all, while there is a capacious oblong recess in the plain back wall. Although this structure is sandstone, it seems that when first erected every part of the masonry was covered with an overlay of shell plaster, ivory polished, the preparation of this exceedingly fine *chunam* and its application being a technical process carried to great perfection by craftsmen from Rajputana. Such a procedure would make this hypostyle hall of audience outwardly in accord with the marble palaces with which it was connected, the entire complex of buildings standing out in brilliant white, an effect evidently desired by the emperor and a pronounced characteristic of the style.

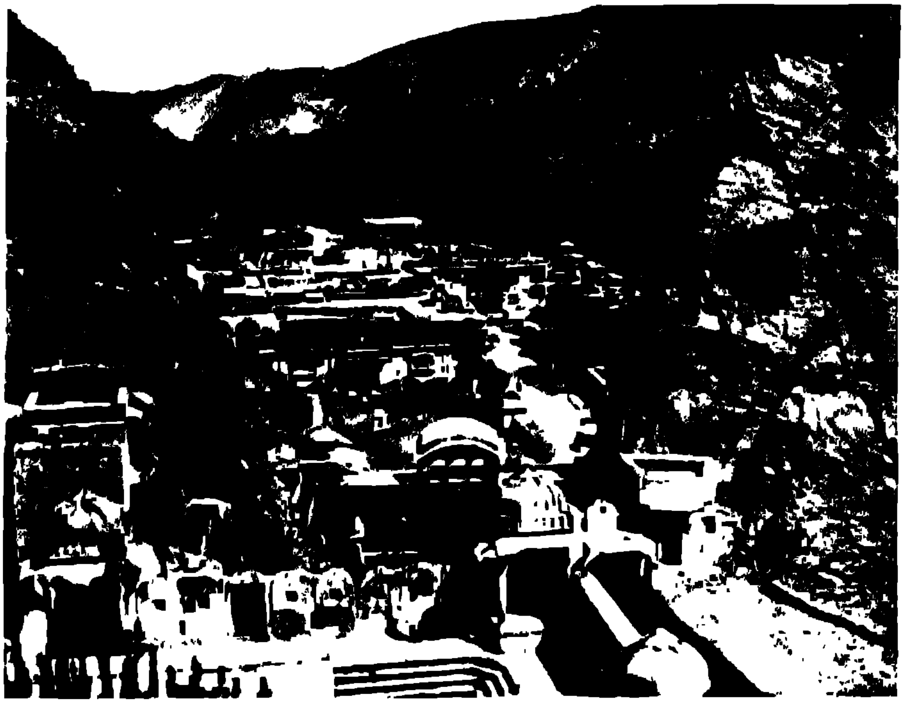
A significant feature of the interior of the Audience Hall was the alcove in the back wall where the emperor sat in state. Here on ceremonial occasions the famous Peacock Throne was installed, that jewelled magnificence since destroyed, but illustrations of which are preserved in some of the Mughul miniature paintings. From these pictures one can understand how the court poet was inspired to inscribe it with the couplet referring to its inestimable intrinsic value, as "the world had become so short of gold on account of it, that the purse of the earth was empty of treasure." But it is the decoration on the walls of this alcove above the throne that has



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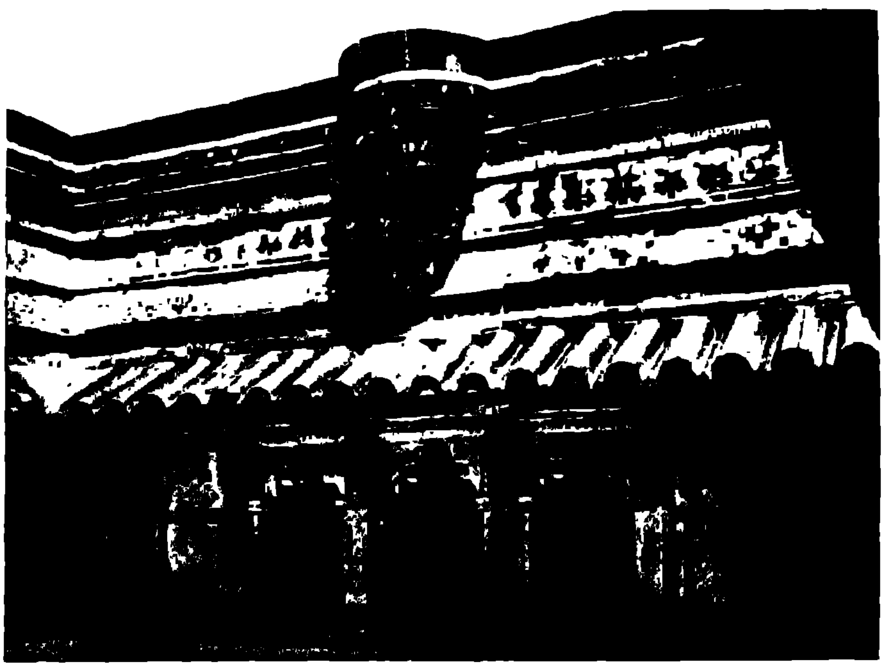
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Fig. [illegible] Palace at Udaipur



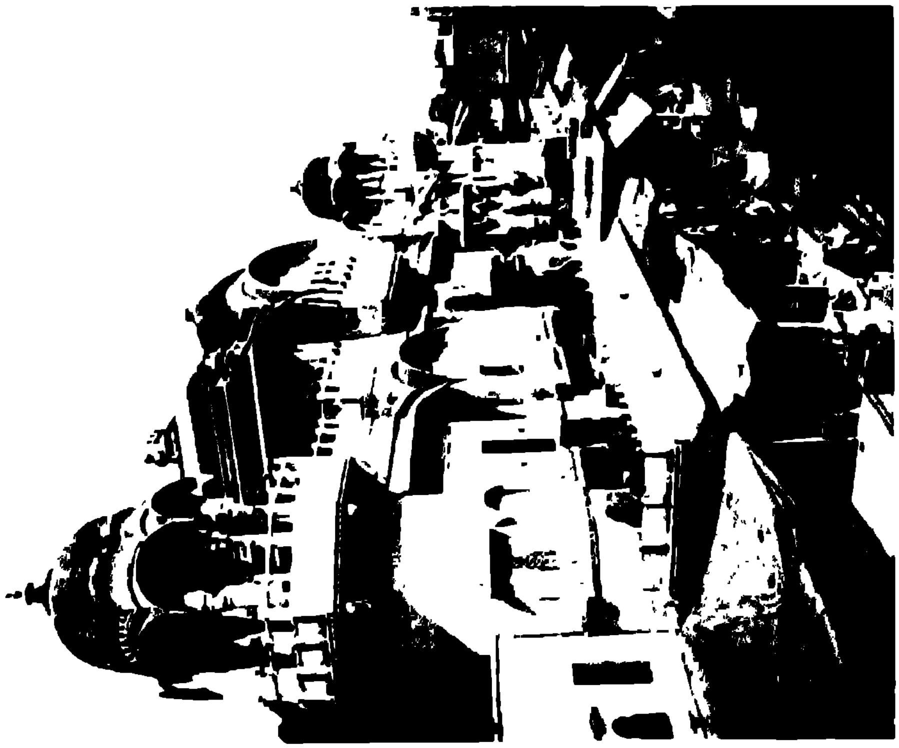
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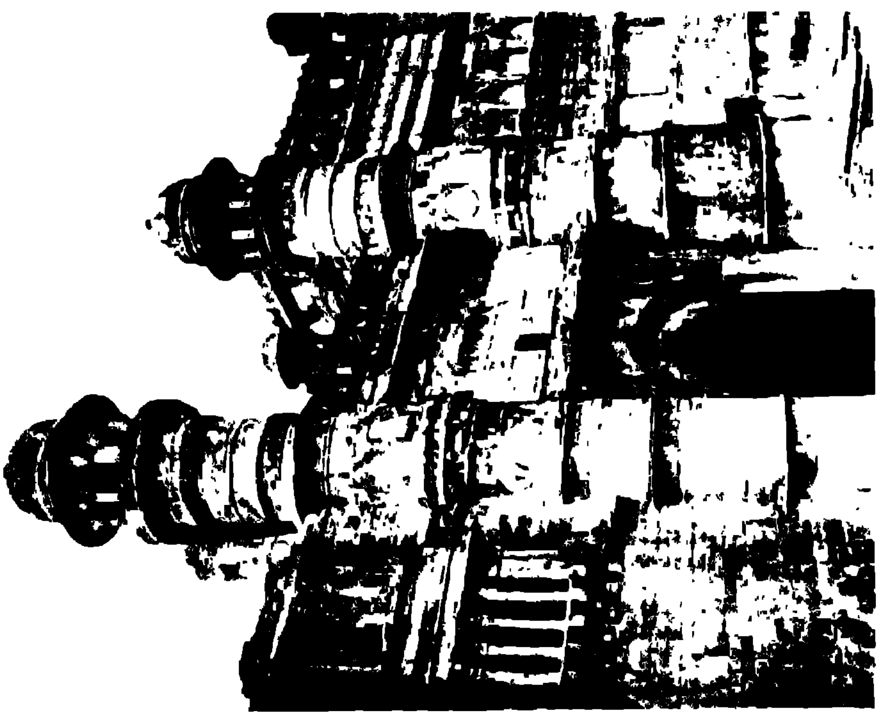


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XCVI





a special interest, consisting as it does of a series of designs in *pietra dura* which in subject matter and in technique have important implications. One small panel at the top depicts a characteristically occidental representation of "Orpheus and his Lute." This particular piece, with probably a few others, has proved to be an original example of Florentine inlay, acquired in the course of trade, and, as a choice work of art, was incorporated by the Indian artizan in his ornamental scheme, just as a piece of exotic brocade might be included in a patchwork quilt. (Plate LXXX.) The appearance of these panels in the design has been accepted by some as conclusive evidence of Italian influence on the arts of the Mughuls at this period, an inference which, however, requires modification. It is true that for some time examples of European worksmanship such as pictures, jewellery, metal-work and similar objects had been finding their way into Mughul India, a circumstance brought about by the increasing commercial relations between the East and the West. Records of European craftsmen-adventurers who were finding service under the Mughul emperors have also been preserved, but any influence these factors had on the indigenous productions of the country was confined almost entirely to the field of the minor and applied arts, the effect on the architecture being of little consequence, owing mainly to its inherent constitutional vigour. Yet the beginning of the contact may be noticed even in the building art, as for instance in the fort at Delhi wherein what is known as the "Scales of Justice Screen" of the Rang Mahall certain elements appear having an occidental flavour. (Plate LXXVIII, Fig. 2.) More significant still are some of the vaulted ceilings in Shah Jahan's later additions in the fort at Agra where semicircular arches, their spandrels decorated with scrollwork, are reminiscent of the contemporary florid architectural style of France during the reigns of Louis XIII and Louis XIV.

The emperor Shah Jahan's building plans at Delhi were not however confined solely to the creation of this fortress, as his scheme included a notable structure outside its enclosure. This was a large congregational mosque or Jami Masjid occupying a site near to his citadel but at the same time within the precincts of the city. Thus providing a place for public worship and also for his own ceremonial usage. (Plate LXXXIV.) Begun some six years after the first stones of the fort were laid, it ranks as the largest and most eminent building of its kind in the country. The practice of erecting congregational mosques on a raised foundation has been the means of giving a definitely imposing appearance to this class of structure, many examples of which owing to adherence to traditional forms, are not notable for external effect ; but the lofty plinth of the Delhi example fully achieved its purpose. Moreover the elevation of the complete composition, as in this instance, has enabled its three noble gateways to tower above their surroundings, and to be approached by majestic flights of steps, all of which add height and dignity to the exterior view. Public admission to the mosque is only permitted by the north and south gateways, that on the east being reserved as a royal entrance where formerly a processional route connected it with the fort.

Within these entrances the interior presents an immense stone-flagged quadrangle of 325 feet side fronting the sanctuary, a building of large size and imposing appearance remarkable for its bold treatment in red sandstone, the effect of which is accentuated by considerable portions of its surface and also its outlines being in black and white marble. The mosque sanctuary, as a result of the gradual evolution in its structural aspect of the Moslem place of prayer, had by now developed into a self-contained element of the architectural composition, after the manner of a large church or cathedral, as in this example. On the three other sides of the courtyard ranges of cloisters extend, their long colonnades broken in the centre by the inner faces of the gateways, while the entire open space of the quandrangle is empty except for a square tank in the middle for ablutions. Such a conception causes the eye to be drawn instinctively towards the sanctuary building, the great uninterrupted expanse in front leading up to its facade and making manifest its qualities of breadth and mass. Measuring 200 feet in width and 90 feet in depth, this structure is clearly and intelligibly planned, its exterior presenting a wide central archway flanked by an arcade of ten engrailed arches, five on each side forming the wings. At each end these wings terminate in a tall minaret of four stages, while over the whole rise three large bulbous domes of white marble. The interior of this sanctuary is as logical in its design as the exterior, as it consists of one great hall divided into aisles by massive piers supporting engrailed arches, and there are elegant arched mihrabs sunk in the west wall of each bay ; this arched effect is continued in the surface decoration as panels containing ornamental cusped and foliated arches are the leading motif on the walls, piers and pavement.

The architectural and decorative manipulation of this structure is in conformity with its large dimensions, the scale of its parts having been consistently observed, and its minor elements are equally well proportioned, while the effect of substance and void with its accompanying apportionment of light and shade, as expressed by the arched composition of the facade, is most praiseworthy. On these essential and material grounds this building cannot fail to impress. Yet in spite of all these principles having been applied, and the correct procedure sedulously followed, with every part made appropriate to its needs, the general appearance of this great production, although admittedly spectacular is lacking in that quality of aesthetic sensibility fundamental in a building of this order. Its calculated and almost mechanical precision combined with the hard outlining of the domes and minarets ; the rigid demarcation of certain portions with no modulation effected through the variety of texture ; the multiplicity of some of its details such as the merlons and inlaid panels which do not satisfy the mind but fatigue it, all these together with a general character of aloofness and reserve are the main conditions which prevent the artistic perceptions of the spectator being wholly stirred. On account of its size

and structural perfection this mosque holds a high place, but it does not set the emotional chords sounding as do other buildings of this period. (Plate LXXXV, Fig. 1).

A different response is provided by another congregational mosque built about the same time, which although not so large or ambitious nor so academically correct as the preceding has much to commend it. This is the Jami Masjid at Agra erected by Shah Jahan in 1648 in honour of his daughter Jahanara Begum, a princess of no little personality, a fact to which some of the individual character of this edifice may be due. Although considerably less than half the size of the mosque at Delhi, as it measures only 130 feet by 100 feet and therefore possessing nothing like the imposing aspect of that example, yet there is something in its well-balanced proportions which seems to enhance its scale thus adding to its distinctive appearance. In spite of the fact that its arches are of the simple "Tudor" type and not enriched with foliations, and that its three domes lack height and suavity of contour, while no tall minarets grace its facade to carry it upwards and give it elevation, nonetheless it has compensating attributes. The qualities of this mosque are the pleasing distribution of the arches forming its frontage with the wide intervals between, the slender pinnacles alternating with the kiosks admirably disposed along its parapets, the shape and treatment of its courtyard, and the central fountain and basin in which the kiosks at the angles repeat those above, such are the principal elements which combine to make the Agra Jami Masjid an interesting and satisfying architectural production. (Plate LXXXVI.) Here it may be remarked that there are no precise records of the manner in which the Indian builders of the Islamic period prepared the "centering" for their arches and domes. It was however most probably on the Roman system of a temporary wooden frame work supplemented by bricks as shown in some of the miniature paintings of the time. In connection with the construction of the Mosque at Agra there is a contemporary reference to the effect that on the completion of this building it was publicly announced throughout the city by beat of drum that the timber forming the centering was free to anyone who cared to take it away. Before nightfall, it is stated, the whole of this temporary woodwork was removed for domestic purposes without any expense to the authorities concerned. Tavernier however definitely notes that in the construction of the domes of the Taj Mahal brick scaffolding became necessary for the centering which added considerably to the expense.

During the same period that buildings in stone and marble were being erected in such profusion in the principal cities of the Mughul empire an architectural style of another type and constructed of an entirely different building material was becoming manifest in the more northerly portions of Shah Jahan's dominions. The focus of this independent development was the city of Lahore, but examples of it are found in many places in the Punjab, where for some time it was a regional mode. This phase of architectural expression took the form of structures composed almost solely of brick masonry with an occasional insertion of sandstone for additional strength, but its chief characteristic was the exterior decoration covering most of its surfaces, which consisted of patterns in brilliantly coloured glazed tiles. Such a technique in construction and ornamentation was the result of two factors, firstly the geological conformation of the Punjab, and secondly the proximity of this part of the country to the powerful empire of Persia with which its northern frontier was at the time contiguous. In the alluvial plain comprising much of this region a stone outcrop is rare, so that the natural tendency of its people throughout their history, was to built in brick and wood ; this accounts for the first factor. The influence of the architectural style of Persia is responsible for the second of these factors, as for considerable periods the Punjab had learned to look to the north-west and beyond for its cultural inspiration. And at this particular time the influence was unusually strong, as during the first half of the seventeenth century the Safevid art of Persia had attained its meridian, and the Punjab came under its irresistible spell. Not that the brick buildings at Lahore and elsewhere reproduced exactly the style of those incomparable structures that Shah Abbas a few years earlier had set up in his new capital at Ispahan, but they were in the same tradition, and, above all, they depended largely for their appearance on the brilliant mural decoration executed in a like technique.

By far the finest example of this phase of Mughul architecture is the Wazir Khan's mosque in Lahore, built in 1634, but there are numerous other structures in and around this city all designed and built in the same manner, such as the gateways of the Gulabi Bagh, the Chauburji, the tombs of Ali Mardan Khan and of Sharafunissa, the Shalimar Bagh and the mosque of Dai Angah. Moreover, showing that it was a form of the building art sufficiently virile to penetrate well into Hindustan there is the tomb at Agra of Afzal-Khan of Lahore, now known as the "Chini ka Roza," while its influence is also observable in the Jami Masjid at Muttra. In the mosque of Wazir Khan, however, this style is represented in its most expansive and colourful mood, for it is a building which is one of the most distinctive features of the Punjab capital. (Plate LXXXV, Fig. 2.) It is planned on the usual lines, its various parts surrounding a paved courtyard, although its large gateway and four octagonal minarets have a certain picturesque character which places this conception in a class by itself. But its chief attraction lies in the fact that every portion of its structure, both inside and out, is enriched with a variegated scheme of colour either by means of floral patterns painted in tempera, or panels of more conventional design executed in lustrous glaze. So effectually do these modes of decoration, applied in such profusion, dominate the architectural composition, that it becomes obvious one of the essential principles of the building art has been ignored, for instead of the ornamentation being subordinated to the structure, it controls it. Everywhere the architect has been impelled so to devise his construction that it may provide spaces or receptacles for coloured embellishment, while all the wall surfaces are

divided up into panels to contain the same ornamentation. Particularly does this refer to the exterior of the building as here the art of the tile-maker was the first consideration, and the architect worked out his scheme with such an object in view. Mouldings, stringcourses and similar methods of functional emphasis were either only sparingly introduced or entirely omitted, colour and more colour being the keynote of the style.

In such circumstances, with one of the fundamental usages of good building set at nought, it would be expected that a plain and ineffective production would be the result. On the contrary, although not to be classed as great works of architecture, these brick and tile decorated buildings aided by their environments and the ever present sunshine, display all the characteristics of a determinate style. The fact that their fabric is entirely of brick to some extent prepares the spectator for an economy in plastic treatment or in the application of any strong lines or sharp passages of light and shadow, but these deficiencies are counteracted by the surfaces being panelled out in areas of vivid broken colour, which immediately attract the eye. This tile decoration takes two forms, one in which the tiles are about six inches square having the design carried across the joints so as to present the effect of a "free all over" pattern, and another system, in which the tiles are much smaller and are cut in the shapes of the pattern, not unlike the tesserae of a mosaic, hence they have been called "mosaic tiles." The former kind are somewhat rare, but examples of this method of tiling may be seen in some fragments on the walls of the tomb of Asaf Khan at Shadera, near Lahore. Of the latter type which is much more common the best work is on the Wazir Khan's mosque, and also on the outer walls of the Lahore Fort. None of these tiles are moulded in relief, they are all flat pieces, and the glaze is applied and fired in the usual way. The mosaic tile process was practised only in Persia and northern India, where in the sixteenth and seventeenth centuries it was evidently an important art industry employing large numbers of workmen experienced in this very specialized method of faience manufacture. For instance the substance of the tile was not clay but its basis appears to have been composed of disintegrated sandstone ground to a powder which, when fused under certain conditions, forms a kind of crude porcelain of a whitish colour, thus giving a transparent quality to the glaze. Each piece of the design was cut out in a manner not unlike the pieces of a jigsaw puzzle and then cemented into its required position in the design. Investigations have failed to lead to any evidence, definitely proving these tiles were manufactured in the Punjab, where they are referred to as *Kashi* work, a name apparently derived from the town of Kashan in Persia noted for its faience. It is not improbable, therefore, that they were imported in bulk from Persia, as there are records of "earthenware," which must have been of a very particular kind, being shipped in large quantities to India at this time.[1]

Mention of the tomb at Shadera of Asaf Khan, father-in-law of Jahangir, who died in 1641, brings to notice what may be the early introduction of another exotic feature, in a portion of its decorative treatment. The tomb building itself, stripped now of its marble facing, in spite of such disfigurement, has every appearance of having been a handsome structure, and still displays, on its exterior specimens of rich mural ornamentation of tilework of the kind referred to above. But it is in the embellishment of the interior chambers that an exceptionally fine example of plastic work has been applied. For here on the ceiling, are the remains of a graceful interlaced pattern in high relief, executed in plaster and attached to the concave surface by means of a framework of bamboos. There is something in the design which suggests the lines of an Italian or Sicilian textile, and it is not unlikely that fabrics of the type were finding their way to the Mughul court in view of the interest that overseas manufactures were exerting at this time. But whether derived from such a source or purely indigenous inspiration the beauty of this pattern, the manner in which it is manipulated to cover the curved surface, and its appropriateness for its purpose, are all definitely worthy of praise.

But all these architectural experiences, beautiful though some of the results undoubtedly were, recede into the background when compared with that materialized vision of loveliness known as the Taj Mahall, a monument which marks the "perfect moment" in the evolution of architecture during the Mughul period. This building which stands on a bend in the river Jumna at Agra, is the mausoleum of the emperor Shah Jahan's well-beloved consort, the empress Arjuand Banu Begum, whose titles Mumtaz Mahall (Chosen of the Palace) and Taj Mahall (Crown of the Palace) have been abbreviated into the "Taj." The broad conception of this unique memorial can only be attributed to the imaginative mind of Shah Jahan himself, but who was the genius entrusted with the work of translating his ideal into such a perfection of architectural accomplishment, has been a matter of some controversy. Much of the uncertainty as to the author of this building has been occasioned by a categorical assertion recorded by Father Sebastian Manrique, a Spanish Augustinian friar, Visitor of this Order in the East, that the architect was a Venetian jeweller and silversmith named Geronimo Veroneo, who drew a large salary as court artist to the Mughul emperor. On the other hand contemporary manuscripts have been preserved purporting to give full details of its construction including the names of the chief artificers, from which it becomes clear that the work throughout was wholly indigenous, no mention being made of European intervention of any kind.[2] In support of the purely oriental constitution of this building, and to the student of the style a factor more conclusive than any documentary evidence, is the character of the monument itself, which shows in all its aspects that it was the logical evolution of the building art as practised by the Mughuls, true to tradi-

[1] Langlès, *Voyages du Chevalier Chardin* (Paris 1811) Vol. 4, p. 165

[2] All the facts relating to this subject are exhaustively dealt with in Vincent Smith's *History of Fine Art in India* pp. 416-419.

tion and entirely free from any external influence. A possible explanation of the alleged Italian attribution, which, in spite of the standing testimony of the building still persists, may be that the Venetian craftsman was invited, with others, to submit designs, but the one prepared by the indigenous master-builders was that eventually selected.

As to the sources from which the architects of the Taj Mahall may have derived some of their inspiration, there are two buildings at Delhi which predetermine it in certain aspects of its conformation. These are the mausoleum of Humayun, and a lesser known structure, the tomb of the Khan Khanan, a Mughul nobleman, who died in 1627. Considerably over half a century separates the construction of these two tombs, but the later one is a proof that the type of architecture they represent had not been forgotten during this interval; moreover in view of the fact that this example was erected only a few years before the Taj is also an indication that the style they typify was being revived and again coming into favour. On the traditions therefore of Humayun's tomb on the one hand, and with the experience gained from that of the Khan Khanan on the other, Shah Jahan's architects evolved this masterpiece of the builders' art. (Plate LXXXVII.)

Although the tomb building itself was the *raison d'être* of the undertaking, the main structure actually occupies only a relatively small portion of the architectural scheme as a whole. The plan of the whole conception takes the form of a rectangle aligned north and south and measuring 1900 feet by 1000 feet with the central area divided off into a square garden of 1000 feet side. This apportionment leaves at each end of the rectangle an oblong space, that on the south side being laid out in system of roads and service dwellings, while that on the north consists of a raised terrace containing the white marble tomb building with certain supplementary structures, all overlooking the river below. The entire garden portion, including the tomb terrace, is enclosed within a high boundary wall having broad octagonal pavilions at each corner, and a monumental entrance gateway in the centre of the southern side. Even these adjuncts do not exhaust the amenities of the scheme, as beyond the entrance are courtyards, stables, outhouses and other edifices, with the addition of a "bazar" for supplies; in its composition nothing has been omitted, and one of the most striking facts in connection with the architectural projects of this period is the amount of preliminary thought that must have been expended on them before the actual construction was begun. The building art as practised by the Mughuls permitted no subsequent amendments or afterthoughts, each undertaking was initially perfected in all its parts with every need anticipated.

The approach to the mausoleum could be made equally well by road or by river and there is evidence that in its earlier days the favourite ways was by water, a state barge being used to convey the emperor and his court to the steps of the landing stage at the north-west corner of the terrace. Whichever way one came the first view of the building was most impressive, either it was charmingly reflected in the water which lapped its walls, or, alternatively, it was framed like an opalescent picture by the fine archways of the vaulted entrance hall. Moreover, the ornamental gardens were so planned as to prepare the spectator for the exquisite appearance and lovely dignity of the central structure, each of its formal elements being designed with the express object of either harmonizing with its architecture or bringing it into pleasing perspective; in addition there were water courses with fountains and elevated lotus pool, all arranged to mirror its beauties from various points of view. It is from such positions that the character of feminity with which this monument has been accredited becomes apparent, a quality presumed to be intentional as a tribute to the sex of the royal personage it enshrines. This impression has been evoked by several particulars among which are the plastic delicacy and soft moulding of its contours, the superfine treatment of its decoration, and the chaste texture and subtle colouring of its material, which, combined with the gracious and poetical nature of the building as whole, all tend to imply a humanity which can only be feminine. On the other hand the fact should not be overlooked that the Mughuls themselves had passed beyond that stage of robustness and masculine virility that distinguished their early period and were now experiencing that season of mellow sensuousness which ordinarily supervenes after such conditions, and which political security and vast material resources serve to encourage. In such circumstances it is more than probable that not a little of the effeminate quality in this building was merely an expression of the spirit of the time.

The architectural portion of the conception which is of most significance are the structures on the terrace occupying the northern end of the enclosure consisting of the tomb building in the centre and two detached subsidiary edifices, one on each side. Of the two latter that on the west is a mosque, while that on the east is a replica of the mosque but without its religious purport, being introduced into the composition for the sake of symmetry. Yet this *jawab* or "answer," as the replica is called, had its uses as it formed a kind of reception hall known as the *mihman khanah* or guest house. But the building which gives the main character to the whole is the white marble tomb structure in the middle of the terrace, the focal point of the entire scheme. This, the mausoleum itself, is elevated on a plinth 22 feet high, is square in plan and 186 feet side with its angles chamfered; this shape is carried up so as to form a building 108 feet in height, having a marble cupola above each corner, while over the centre, towering to a complete height of 187 feet, is the great bulbous dome. To extend and distribute the architectural effect a minaret in three stages and crowned by a kiosk rises from each corner of the plinth to a height of 137 feet. It will be seen therefore from the main elements forming this structure that its design was by no means complex, it is a comparatively simple composition worked out in plain forms, but with that ease of consummate accomplishment which betokens the master mind. Its proportions also are as simple as its shape, for instance the

entire width is equal to the height, and the height of the facade in the centre is the same height as the dome, in other words, the top of the parapet above the large alcove is the middle point in the whole elevation, while other measurements give correspondingly logical results. Although all these factors have been carefully considered, it is the facile grouping, rhythmical disposal, and skilful interrelation of each part in the total unity that cause the appearance of this building to react on the aesthetic perceptions in a most inspiring manner

But the crowning glory of its elevation lies in the shape and volume of the dome, which, supported by a lofty drum appears like a "clouds reclin'd upon his airy throne." When analysed the body of this feature is seen to be a globe, its lower part truncated by the drum, while its upper curves, produced tangentially, rise up to form the foliated base of the final. Here it may be useful to compare the central dome with the smaller cupolas at its foot, for they represent two types, the outcome of two separate traditions, as may be judged by their shapes, the large one being derived from a Persian source, while the smaller ones, unconstricted at their base, are indigenous. In some respects the subtle constrast thus produced may be likened to a change of key in the melodic treatment of the whole, as there is something equivalent to the same movement in the technique of the minarets, for the face joints of their masonry are countersunk forming a kind of rustication not seen in any other part of the building.

The arrangement of the compartments in the interior of the Taj was manifestly copied from that in Humayun's tomb at Delhi, as there is the same octagonal central hall with subsidiary chambers in the angles, and all are connected by radiating passages. Reproducing the two storied treatment of the exterior, the main hall is also in two stories of arcades, over which is a semicircular vault forming the inner shell of the double dome, as there is a large void above this ceiling equal in area to the hall itself. The disposal of the other rooms within the building, although appearing at first sight rather intricate, is in reality comparatively simple and consistent, as each apartment is contrived in an angle, with a similar upper story room immediately above it. As to the decoration which has been applied to the architecture of this monument, except for some carving on the dados and the exquisite treatment of the perforated screen enclosing the cenotaphs most of the mural enrichment consists of inlaid patterns distributed with considerable restraint over the flat surfaces reserved for the purpose. Perhaps in this respect the highest perfection has not been attained, some of the designs appear slightly inadequate for their position, being loosely composed and lacking in breadth, defects not found in Humayun's tomb and with which the Taj in this particular connection may be usefully compared

The chief beauty, however, of the building lies in the complete lucidity and coherence of its external architectural effect. As already explained not a little of this is due to the high degree of perfection in its proportion, the simplicity, yet superb fluidity of its parts, and "the elegancy, facility and golden cadency" of it as a whole. But undoubtedly much of its charm is produced by the quality and texture of the material used in its construction. This marble from Markrana is of such a nature that it takes on incredibly subtle variations of tint and tone, according to the changes in the light, thus picturing the passing colour of the moment. Especially is this noticeable in the shadows which on occasion are almost as delicately imperceptible as those cast upon clear water, soft and ethereal but still giving definition and depth. For every hour of the day and for every atmospheric condition the Taj has its own colour values, from the soft dreaminess at dawn, and the dazzling whiteness at midday to its cold splendour in the moonlight, when the dome, thin of substance as the air, hangs, among the stars like a great pearl. Yet none of these effects can equal those few fleeting moments when, softly illuminated by the brief Indian afterglow, it assumes the enchanting tint of some pale and lovely rose. (Plate LXXXVIII, Fig. 1.)

That it was Shah Jahan's intention to duplicate the entire scheme of the Taj by the erection of another mausoleum in black marble to enshrine his own remains, on the opposite bank of the Jumna, and to connect the two by a bridge, seems fairly well established. Tavernier, the French traveller and trader, who visited the Mughul court during the regimes of both Shah Jahan and Aurangzebe definitely stated that the former emperor "began to build his own tomb on the other side of the river, but the war which he had with his son interrupted his plan, and Aurangzebe, who reigns at present, is not disposed to complete it."[1] And supplementing this contemporary record is the testimony of the cenotaphs in the Taj itself, their position with that of the queen in the centre, and that of the emperor to one side, seems to signify that the location of the latter was an afterthought brought about because his own separate mausoleum never matured. Whether this monarch even with all his vast resources could have carried out such an extravagant and spectacular project will never be known, but that he had the vision to contemplate it is an indication of the unlimited extent of his architectural ambitions.

No account of the building art of the Mughuls would be complete without a reference to the landscape architecture of this period, as illustrated by the large ornamental gardens which it was the pleasure of the rulers and others in power to lay out on certain appropriate sites. The idea of these retreats was brought from Persia, whose poets were for ever singing of their delights, as for instance Firdausi, in describing the garden of Afrasiab, says "like the tapestry of the kings of Ormuz, the air is perfumed with musk, and the waters of the brooks are the essence of roses." It was this love of nature communicated to the emperor Babur, which moved the founder of the dynasty to commemorate his victory over Ibrahim Lodi in 1527 and which placed all Hindustan at his feet, not by a triumphal monument but by a large garden called the Kabul Bagh at Panipat. Later,

[1] Tavernier Vol. I pp 110, 111

park-like enclosures surrounded most of the principal architectural projects of the Mughuls especially those of their tombs, as already shown, but spacious gardens were also created solely as pleasure resorts, and were often elaborate and comprehensive compositions. Of the latter type where the famous gardens of Kashmir, among which the Shalimar and the Nishat Baghs, are best known, the enchanting scenery in which they are embosomed adding much to their beauty. (Plate LVI.)

In the plains of India the most notable example of a Mughul garden is the Shalimar Bagh near Lahore, built by the emperor Shah Jahan in 1637, which is designed on the same principles as those governing the plans of most of these pleasances. It is formed by means of a series of rectangular terraces arranged in descending levels with the object of maintaining a continuous flow of water throughout the entire system, as fountains, pools, basins, cascades, and similar devices are so distributed among the parterres as to make the whole into a very effective type of water-garden. In all instances the lay-out is rigidly conventional and axially symmetrical, there is pattern in the conception, but as a rule it is too geometrical to be rhythmic; the style belongs to the school of the formalists and not to that of the naturalists, the aim being to discipline nature and not to imitate it. The result is that the plan of the Mughul garden is worked out in a regular arrangement of squares, often subdivided into smaller squares to form the favourite figure of the *char bagh* or "fourfold plot." Paved pathways and water channels follow the shapes of these squares, oblique or curved lines being very rarely used. Except that the stately *chenar* tree (*Platanus orientalis*) finds a prominent place in the Kashmir garden compositions, with orchards in those of the palaces, and avenues or groups of cypresses in those around the tombs, the science of arboriculture and the art of topiary were not practised, the main effects being obtained by means of parterres and borders of flowering and aromatic plants. At central points in the scheme, masonry pavilions, loggias, kiosks and arbours were erected, some of these, as for example the pillared pavilion of black marble in the middle of the Shalimar Bagh in Kashmir, having no little architectural merit. To ensure privacy it was the custom for the entire garden to be enclosed within a high wall, and as an indication of the considerable scale of some of these conceptions that at Shalimar near Lahore forms an oblong 1600 feet by 700 feet so that its longest measurement from end to end is over a third of a mile. To provide the water supply required to maintain such a garden in a state of uninterrupted efficiency it was often necessary to obtain this from a distant source by means of a canal, the construction of which was no mean feat of engineering.

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CHAPTER XXI

THE MUGHUL PERIOD (concluded)
AURANGZEBE (1658—1707) AND AFTER

WITH the advent of the Emperor Aurangzebe as the last of the "Grand-Moguls," for there was no prominent member of the dynasty after this ruler, the beginning of the decline of the Mughul empire becomes manifest, a condition accompanied also by the first indications of the decline of the building art which it had created. While much of this downward tendency of the Mughul style of architecture was inseparable from the oncoming disintegration of the state, that not a little was due to the personal indifference of Aurangzebe towards the subject of building construction is fairly clear. By this time it will have been realized that, in addition to the course of the art of building being controlled very largely from the throne, its appearance was influenced to a considerable extent by the individual convictions of the ruler himself, the style it assumed being an impression of his own intimate inclinations and moodes. The buildings, therefore, that were erected under Aurangzebe reveal not only the temperament of this monarch but also his weakness, his faulty ideals being communicated to the monuments that were raised during his regime. On the other hand some of the deficiencies in these conceptions, and in effect the deterioration of the style as a whole were inevitable, they were the result of the diminishing influence of the ruling power, which Aurangzebe's bigotry only served to accelerate.

Whatever the causes, whether personal, political, or both, the architectural productions of the Mughuls during the later half of the seventeenth century were less numerous and of a lower standard than those executed under any previous ruler of the dynasty. One of the most instructive illustrations of this deterioration is located not in the northern portion of the empire, where all the finest examples of the Mughul style are to be found, but as far south as in the Deccan, for it was in campaigning here that Aurangzebe spent many years of his reign. In the now decayed city of Aurangabad, which he made the capital of this territory, so that at one time it aspired to the title of the "Delhi of the South," are the remain of a citadel and other structural records of a one time royal seat. Preserved on this site is a building of some pretensions, the mausoleum of Rabi's Daurani, wife of the emperor, whose son caused it to be erected and it was finished in 1678. A glance at this monument shows that its design was inspired by the Taj Mahal, as the entire scheme with its domed central structure, its four minarets and its garden setting, is laid out on lines similar to Shah Jahan's masterpiece at Agra, although it is little more than half its size. Nothing could depict more graphically the decline in architectural ideals that was taking place than a comparison between the memorials to these two queens, the highest achievements of two consecutive reigns, and separated only by an interval of less than forty years.

Some allowances may be made for the Aurangabad building being on a smaller scale, but even then it is clear that this monument is not only a paraphrase or even an imperfect memory, but a travesty of its immortal prototype. In addition to its compressed proportions, which cause the upper elements to form a somewhat confused grouping of pinnacles and cupolas, the square pilasters at the quoins in place of the chamfered angles of the original are an unsatisfactory innovation. Then the enrichment that has been introduced, such, as the ornament over the parapets, the foliations of the arches and the plastic treatment generally is mean and spiritless, while about all is the shape of the domes, both large and small, the outlines of which have lost their fluidity and are stolidly formal. Perhaps the redeeming feature of the total conception is the design of the minarets, which although their balconies repeat some of the flamboyant character of the central structure are simple compositions and in good proportion. This building is most remarkable for what appears to be the absence be that combination of spiritual and human incentive which, hitherto furnished and consistently maintained by the ruling power, had stimulated the Mughul workmen throughout the entire course of the style.

Another building of this period, in treatment more in accordance with tradition, probably because being a mosque its design is bound by convention and also on account of its position being closer to the finest productions of the Mughuls, is the Badshahi Masjid in Lahore, (XCIII, Fig. 1) This large mosque was erected in 1674 by Aurangzebe's Master of Ordnance, and is a building of a strong and resolute character as would become the creation of the premier royal engineer of his time. Provided with more minarets than is usual in structures of this order, as it has one at each corner of the mosque enclosure and another somewhat smaller at each angle of the sanctuary, thus aggregating eight in all, these outstanding features of its composition have been partly demolished by an earthquake, a circumstance seriously detrimental to its external effect. Nonetheless, it still presents an imposing appearance, its sanctuary building, although considerably smaller than the Jami Masjid at Delhi, being designed in much the same manner, as its facade contains the large central alcove with five arches in each wing, on octagonal minaret at each end, while three bulbous domes rise grandly over the whole.

In spite of the fact that the Badshahi mosque in its architectural character retains much of the strength and solidity of the style at its meridian, it displays at the same time evidence of the change that at this juncture is taking place in the spirit and substance of the building art, that which is essential to its nature has

gone out of it, the sap is drying up and it is becoming stiff and soulless. This defect is specially noticeable in the sanctuary facade, which, although in good proportion and all its elements correctly disposed, lacks that touch of vitality, that moving play of surface and contrast of light and shade that is the hall-mark of all good architectural effort. Similar failings may be observed in the ornamentation, in which the correct scale has been maintained but it is simple even to plainness so that the effect is not of embellishment but mere filling. On the other hand the great triple domes are in their way superb examples of design and workmanship, and are impressive whether seen from the courtyard, or from the rear view of the exterior surmounting a plain yet stately expanse of solid masonry. These domes are of the bulbous variety, and although examples more constricted at their bases were produced as the style progressed, these illustrate quite clearly the gradual evolution of this important feature. This evolution may be traced by noting the earliest of the series, that over Humayun's tomb at Delhi, the subtle curves of which immediately above the drum were copied sixty years later in the tomb of the Khan Khanan. When some ten years after this Shah Jahan's dome builders devised the great cupola over the Taj Mahall, they gave its lower contours a "return" before joining these to the drum, thus constricting the base of the dome and making it bulbous. In the domes over the sanctuary of the Jami Masjid at Delhi this return was carried a degree further, and also in the Badshahi mosque at Lahore, just described. In the course of time it became the practice to contract the base of the dome still more, so that cupolas of an accentuated bulbous type are emblematic of the style at its later stages. There is little doubt that the golden mean in the shapeliness of the dome is seen in the Taj Mahall, which records the high water mark of this characteristic element. (Plate LV).

That a certain amount of indecision prevailed at this time among the builders with regard to the most appropriate shape of the dome is shown by the three small cupolas on the Moti Masjid or Pearl Mosque which was added to the buildings in the fort at Delhi in 1662. (Frontispiece.) In the original scheme of the fortress no mosque appears to have been included as Shah Jahan intended the Jami Masjid outside its enclosure to serve his religious purposes. Aurangzebe was, however, of a different mind, for not long after ascending the throne he decreed that within the precincts of the palace a "graceful place of worship should be erected to enable him at various times of the day or night to pay his devotions without the trouble of a retinue or long journey." Accordingly this small but chaste "Chapel Royal" was introduced in a suitable position close to the royal pavilions and "near the private bedchamber."[1] The Pearl Mosque does not belie its name as it is a choice marble structure of the most polished type, and, although in its lines the curve is inclined to predominate, the plastic treatment is restrained and admirably shows of the beauty of the material. It is, however, in the shape of its three cupolas that the builders have not been so successful, as the contours are too rounded and lack that suavity of form which usually characterises the domes even of this later phase of the style.

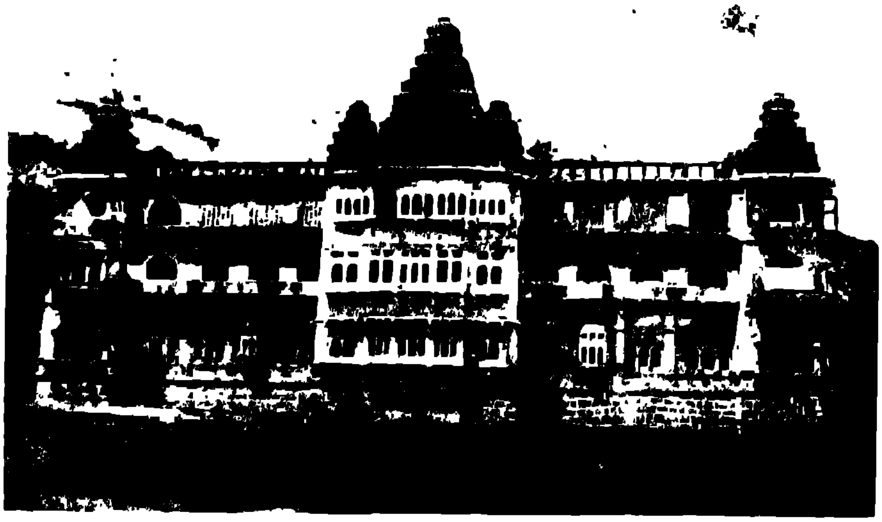
There are other architectural records of Aurangzebe's reign distributed throughout the cities of Upper India such as the mosque at Benares and the Jami Masjid at Muttra, the tall and attenuated minarets of the former rising over two hundred feet above the famous *ghats* or bathing places and in strange contrast to the fanes of this sacred Hindu site, but except for this it has little distinction. On the other hand the mosque at Muttra besides showing no little originality in its design as a whole, illustrates the fusion of the two types, that of the brick and tile method of the Punjab as represented by the Wazir Khan's mosque at Lahore, and that of the more orthodox development of the later Mughul period. As an example of the picturesque variety of mosque it is notable, for raised on a high basement its archways occupied by shops, with a lofty eastern gateway, the upper story forming a minstrels gallery and the whole brilliant with panels of coloured tiles, it presents an animated appearance. From each corner of the courtyard rises a twelve-sided minaret in five stages and surmounted by a kiosk and cupola. When it is realized that the surfaces of the whole scheme, especially the facade of the sanctuary, are accentuated by means of panels and borders of faience, some idea of the colourful effect of this mosque may be obtained.

After the death of Aurangzebe in 1707 the collapse of the empire was only a matter of time, and the few buildings in the Mughul style that were erected after this date are a melancholy proof of the decadent conditions that then ensued. Although as a result of political circumstances the centre of power was transferred from Delhi to Lucknow, where the Nawabs of Oude became paramount, there is a tomb in the imperial capital of the Mughuls which exemplifies in a marked manner the downward course of the building art at this stage. This is the mausoleum of Safdar Jang (1739-53), a nephew of the first king of Oude, who resided principally at Delhi, and whose tomb is the last of the Moslem monuments of note to be built near that city. (Plate XCI.) Erected about 1753, less than two hundred years separates it from the neighbouring mausoleum of the Emperor Humayun, the first royal Mughul tomb to be built in India, and the contrast between the two monuments, the initial and the final example, is instructive. The tomb of Safdar Jang is in size and in material treatment no mean achievement as it boasts a large ornamental garden designed in the usual manner of the Mughuls and in the centre of which stands the main structure. This central building consists of an ample arcaded terrace of 110 feet side and 10 feet high on which rises a double storied edifice of 60 feet side covered by a large and almost spherical dome. In its composition the chief architectural elements employed are in the main those common to most of the buildings of its kind in the Mughul style, such as large and small arched alcoves, turrets with kiosks and a central dome

[1] Mohammed Kazim, *Alamgir Namah*, Bibl. Ind. pp. 467-70 (A. S. I. 1911-12, p. 13).



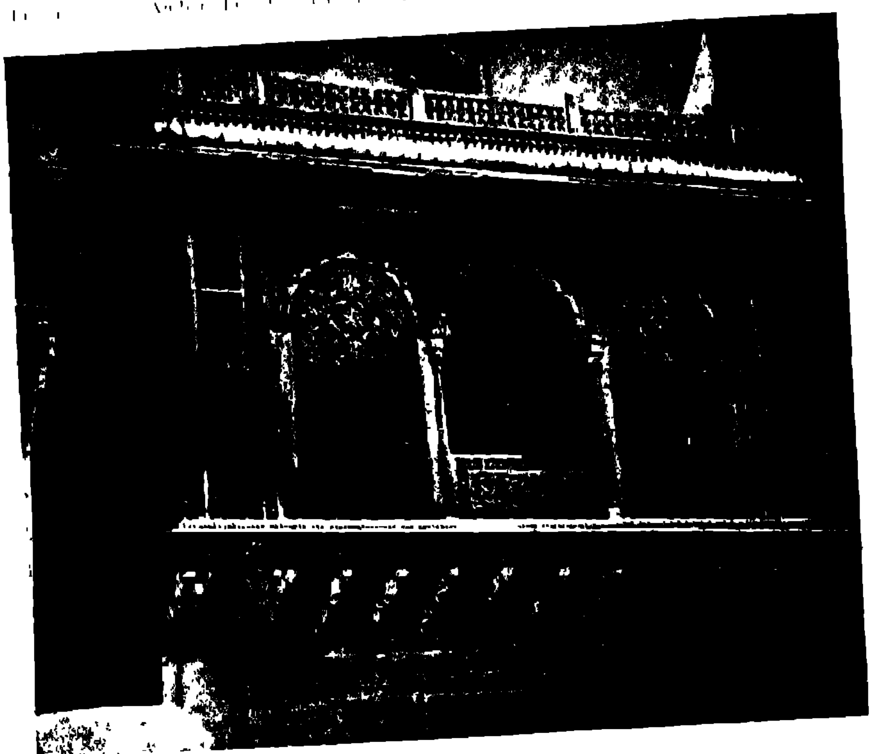
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all disposed in the conventional manner ordained by long experience. But in this particular instance considerable licence has been taken and a deviation from the original type made whereby these essential features have been altered and elaborated and so distributed or combined that a different effect has been produced, an effect that is stilted and unsatisfying. The principal fault, however, and one which becomes glaringly apparent when this tomb is compared with that of Humayun or the Taj Mahall is the unpleasing nature of its proportions. The narrow and vertical tendency of the structure as a whole, the lack of correct expansion at its base, the absence of that pyramidal mass which is responsible for the admirable sense of rhythm in the two classical examples referred to, all these qualities which are fundamental in a work of this character have been omitted, with the result that it does not fulfil the conditions of an architectural ideal.

The last phase of the Mughul style was that which prevailed after this form of the building art has passed out of the hands of that dynasty, and was taken up by others. These were the Nawabs of Oudh under whose rule, during the latter half of the eighteenth and the first half of the nineteenth centuries this magnificent manifestation of Moslem architecture, which had maintained a high standard for considerably over two hundred years, was brought to its conclusion. At Lucknow, which the Nawabs made their capital seat, this final development is fully recorded, for these rulers were indefatigable builders and there are few cities in India where there is a greater display of architecture, both religious and secular, all erected within the limited period of less than a hundred years. But, in spite of this record being one of purposeful magnificence, the examples of the building are thus presented, although often impressive, will not bear inspection, as one and all represent the style at that stage when the sources of inspiration have ceased and stagnation has begun. Some of this state of decadence may be due to the fact that the art appears to have reached that point at which all the essential problems of construction has been solved, and when the major elements of the style had been brought to perfection, so that no further progress was possible; in a word it had not only reached the limit of its performance, but had gone beyond it. In these circumstances the workmen found that the only hope of advance lay in the direction of the elaboration an repetition to a larger scale of that which had been already brought to the highest degree of fulfilment. To achieve this object, therefore, they discarded the use of stone or marble, the building materials hitherto mainly employed, and reverted to a brick and rubble foundation faced with stucco, by which means they were enable to produce architectural projects of great size and imposing appearance but at considerably less cost, expenditure of effort, and in a shorter space of time. It should be added that in the manipulation of these materials the workmen showed exceptional technical skill, the finished execution of the ornamental details and mouldings in plaster being the redeeming feature of this phase of the style.

This closing phase revolves itself into two short periods, firstly that towards the end of the eighteenth century during which buildings were erected merely expensive of the style in its natural decline, and secondly that which flourished in the nineenth century when the art was stimulated into another term of life by becoming increasingly impregnated with elements from European sources. For the first of these the Nawab Asaf-ud-daula (1775-95) was largely responsible as under his authority the city of Lucknow was raised into pre-eminence by means of large building enterprises, and the arts as a whole were encouraged by his unstinted patronage. Of this ruler's architectural achievements there are several examples, but the most representative is that known as the Great Imambara with its mosque, courts, and gateways, an immense and imposing conception, notable for its grandiose proportions. This vast scheme is approached by two gateways, one on each side of a wide thoroughfare, that on the south being the entrance, the other being introduced solely for symmetry. Within this southern gateway is a forecourt leading up to another triple doorway, through which is the main courtyard with the Imambara at the southern end and the mosque on the western side. The Imambara, a building for the observance of the Muslim ceremonial of the *Muharram*, is a large single-storied edifice having no special architectural pretensions, but remarkable mainly for the dimensions and construction of its interior. This interior is a vaulted hall of great size, measuring 160 feet by 53 feet and 50 feet in height, and although one of the largest apartments of its kind, its decorative treatment is not attractive. Of more pleasing architectural appearance is the mosque, which stands, at an angle with the remainder of the scheme, being placed in an a symmetrical position in order to conform with the necessary orientation of such a building. There is a distinct sense of spaciousness in the wide frontage and stepped platform of this structure, for this proportions are not inappropriate, and it is dignified and logical. On the other hand a closer approach reveals an excess of ornamentation, and a smallness in the application of certain decorative accessories, which detract from the breadth of the composition as a whole. Particularly specious is the perforated arcade above the parapet, an architectural exuberance which, it may be noted, was applied so frequently to the buildings of Lucknow, as to become a conspicuous characteristic. Added to this there is the uninspiring shape of the domes with their foliated fluting, all of which serve to accentuate the florid nature of the style and indicate a slackening in its vitality.

But it was left to the designers of the great gateway which gives admission to the outer ward of this conception and known as the Rumi Darwaza, or "Turkish Doorway," to produce the most expressive example. In this structure those concerned appear to have aimed at something large and spectacular, reputed to have been at attempt to excel the Sublime Porte at Istambul, but they have succeeded only in erecting a meretricious and fantastic creation, the whole in very dubious taste. It would be hardly reasonable to compare this gateway with the Buland Darwaza at Fatehpur Sikri, which records the high water mark of such compositions, but

it is difficult to refrain from noting the depths to which this form of structure has descended, as, displayed in the Lucknow project. Extravagantly bold in some of its features, it is frivolously petty in others, a work of contradictions, designed evidently for the gratification, of a patron devoid of refinement or restraint. This building, together with others of much the same character, reflects the conditions that prevailed in the Oude capital at this period. Outward show and tawdry pretence mark the architecture, just as they were symptomatic of the life of the court. The style has no spiritual values, for most of the structures were hastily run up as retreats in which the rulers could pass their time in voluptuous ease both artifice and energy being squandered in the preparation of these sumptuous but ostentatious palatial abodes.

Turning to the second of these two short periods of the last phase, that which eventuated in the first half of the nineteenth century, the main incentive of this movement came from a fresh source. In the last years of the previous century there had been gradually rising in Lucknow a large and pretentious building then known as "constantia", but now utilized as the Martiniere School, and originally intended as the country seat of Major General Claude Martin (1735-100), a French soldier adventurer in the service of the Nawabs of Oude. Designed by Margin himself in what may be termed a debased Palladian style, this immense chateau, in spite of its bizarre appearance a composition of admitted power and character, was one of the first large buildings of a European order to be erected in Upper India. Such an important structural undertaking could not fail to impress, and, in the course of time to introduce into the building art of these parts an entirely new orientation. And the existing state of architecture was ripe for some such stimulus. Attracted by the novelties that this building presented and the fresh field that it opened up, the artizans proceeded to incorporate its more prominent features in the palaces and other secular structures ordered by the Nawabs, and, later, even to make copies of pseudo-classical compositions for the same purposes. Thus there developed in Lucknow a style of architecture of a pronounced hybrid character in which triangular pediments, Corinthian capitals, and Roman round arches were combined with fluted domes, ogee arcades, and arabesque foliations, a medley of western and eastern forms, mostly of a corrupt kind. These buildings may be most suitably described as consisting of a debased Mughul framework garnished with classical motifs often of an inappropriate type, very much as in the sixteenth century in England the degenerate Gothic struggled on, tricked out with elements of an almost similar character and derived from the same source. The examples that illustrate this manifestation of the building art in Lucknow are chiefly those of a secular order, as for instance the larger and smaller Chhattar Manzils, two palaces erected by the Nawab Nazir-ud-din Haider (1827-37), together with the gateway to the Sikandra Bagh, and the Chaulakha Darwaza of the Kaizar-Bagh, both produced during the rule of Nawab Wajid Ali Shah (1847-56). (Plate XCII, Fig. 2) Of the buildings in the Italian style in which the oriental influence is negligible, and, therefore presumably inspired by occidental models, are the Roshanwali Koti, now used as the Deputy Commissioner's Court, and the Begum Koti at Hazaratganj; on the other hand the Jami Masjid begun by the Nawab Mohammed Ali Shah (1837-42) and not finished until 1850, maintains some of the characteristics of the Mughul style, and although over elaborated, is one of the least incongruous compositions in the Oude capital. In 1856 the last Nawab of Oude was deposed, which fact also marks the real end of the style, as no building claiming to have been derived from the architectural mode of the Mughuls was erected in Lucknow after that date.

In a part of the country distinct from Oude but contemporary with its architectural productions there developed another late form of the Mughul style which, had a limited vogue under the dominion of the Sikhs. The Sikh confederacy, which attained great power in the Punjab during the eighteenth and nineteenth centuries may be defined in its religious aspect as a reformed sect of Hinduism, so that any buildings connected with the belief had to be so designed as to accord with its ritual and practice. The architectural style therefore adopted by the Sikhs, while, in apppearance, of Mughul extraction, as the result of adaptations combined with elaborations, presents a certain character of its own, not, however, difficult to identify. Among its typical features are the multiplicity of *chattris* or kiosks which ornament the parapets, angles, and every prominence or projection; the invariable use of the fluted dome generally covered with brass or copper-gilt, the frequent introduction of oriel or embowed windows with shallow elliptical cornices and supported on brackets, and the enrichment of all arches by means of numerous foliations. From this it will be seen that details of a somewhat florid order dominate the style, but although few of the structures of the Sikhs aspire to any special architectural significance, no one can fail to be attracted by their animated and picturesque appearance. Buildings of this kind are to be found in many towns of the Punjab, but the principal examples is the celebrated Golden Temple at Amritsar, a monument in which all the characteristics of the style are fully represented

The Golden Temple has a foundation of considerable antiquity but the structure of the present building dates from 1764, while the greater part of its architectural appearance was added as late as the beginning of the nineteenth century. Its effect, which is very striking is enhanced by the main building rising from the centre of a large tank, the only approach being by way of a causeway across the water and over two hundred feet long. The idea of placing a monument in the middle of a sheet of water is not uncommon in India, as instances occur of this being done by each of the large religious communities. Not only does such practice isolate a shrine from its earthly environment, but its reflections in the water add considerably to its artistic aspect. Such no doubt was the object of the Sikh community when it erected its most revered temple, the Durbar Sahib, or Harmandir as it is called, in the

middle of the "Pool of Nectar." In the course of time the temple and tank became the focus of a complex of buildings which have grown up in the vicinity, most of which repeat in their architectural details the characteristics of the central structure, as for instance balconied windows thrown out on carved brackets, low fluted domes and ogee arches, elliptical eaves with multifoil suffits, and other structural embellishments of a similar order. On the western side of the tank is an archway opening on to the causeway, a paved approach bordered by perforated marble balustrades and standard lamps with elegant gilt lanterns at close intervals. In the centre of the tank this causeway opens out into a platform sixty five feet square, and in the middle stands the temple proper, a square building of some fifty feet side. In its exterior elevation the shrine is a two storied composition over which rises a low fluted dome in gilt metal, while there are kiosks also with fluted metal cupolas at each corner. One large hall forms the interior, and the whole building is richly decorated with floral designs either painted in tempera or embossed in metal, the skilful handling of brass and copper being one of the crafts in which the Sikh workman excels. As an example not so much of architectural style but of religious emotion materialized in marble, glass, colour, and metal, the Golden Temple at Amritsar is equalled only by the Shwe Dragon Pagoda at Rangoon; the former symbolises the faith of the Sikhs, the latter is the highest expression in a very similar range of material of another great Indian religion, that of the Buddhists. (Plate XCIII, Fig. 2).

A country lying in some respects outside the current of the architectural events described above is that of Lower Sind, but none the less for a short period the course of its indigenous style of building came into contact with that of the Mughuls. Owing to its geographical position this country tended even more than the neighbouring province of the Punjab, to develop independently, only occasionally accepting cultural contributions from the rest of India. As a consequence of this condition during much of its history Sind came under the influence of movements taking place outside India and beyond its western borders such as that of the Arabs of the Khalifat, and afterwards that of the Persians. In the field of architecture these recurring contacts were no doubt largely responsible for the type of building that prevails ... for the coloured tiles with ... ntral India, that the presen... fusely decorated, as ... region of independent States in colour, but such w... palaces, not only of ... the Punjab the physical con... inative beauty. was also a factor in its architectural ev... re built substone nor wood were readily available, and ... that the the inhabitants had recourse to brick for the... building material, while a special feature was the enrichment of this brickwork by means of brilliant patterns in faience. Moreover it seems quite probable that the naturally monotonous appearance of this country, bordering as it does on the great Indian Desert, impelled its people to relieve their drab environments as far as lay within their power by colour effects, a fact which may also account for many of the arts of Sind such as pottery, textiles, enamelling, lacquer work, and the like being notable for their vivid colouring.

The architectural style, therefore, that was practised in Sind during the later mediaeval period may be described as a provincialized form of that which developed at the same time throughout Persia, the brick walls being arcaded with arches of the "Tudor" variety, turrets or kiosks with cupolas break the skyline at the angles, and over the whole is a dome of the "Lodi" type. But as in all the architecture of this order, on the brickwork foundation broad planes and simple surfaces prevail, with mouldings sparingly applied as every portion has been devised with one object in view —to provide a field for the glazed tile work with which it is almost entirely faced. Of this type of structure there are numerous examples in the towns of Lower Sind, chiefly in the form of tombs, but there are also several large and important mosques as it was a mode of building in operation for a long period from the time of the Samma Dynasty (1351-1521), to that of the Talpurs (1783-1843). Some of the most representative structures are to be found among the vast assembly of tombs on the Makli Hill near Tatta, included with which are those of the Samma and also of the Arghun princes (1521-54), the earliest of the kind. At Tatta itself is the great mosque begun by Shah Jahan in 1647, which although produced to the order of this Mughul emperor is executed according to brick and the tile tradition of the indigenous style. The town of Khudabad possesses a Jami Masjid of much the same character, and here is also the tomb of Yar Mohammed, as the Kalhora rulers made this their capital in the eighteenth century. Finally at Hyderabad are the tombs of the Talpurs, the last independent power in Sind before it came under British rule in 1843.

It will be seen that these examples illustrate the progress of the movement extending over three centuries, but except for certain variations in treatment due to the difference in time, place, and the personal inclinations of the rulers concerned, they are all of the style described above in which the principal effect is obtained by means of an overlay of glazed tiles. This glazed mural decoration was the handiwork of the potters of Halla, a town still noted for the art. Most of the tiles used on the buildings are of the ordinary size of about six inches side and the colours are mainly confined to two shades of blue and a white with sometimes passages of yellow. On occasion when greater richness of effect was required the pieces of tile were cut much smaller as may be seen in some of the patterns in the interior of the Jami Masjid at Tatta, where in places they are only half an inch wide, over a hundred being used within one square foot, so that the result resembles mosaic. The designs are chiefly geometrical, but in the spandrils of the arches there are often conventional floral compositions, while on the friezes are ornamental inscriptions. In spite, however, of this vivid surface embellishment, and in certain instances the introduction of spirited architectural elements, as for example the kiosks on the tomb at Khudabad of Yar Mohammed (cir. 1710), the building art of Sind is

trite and unimaginative and even the tile work, as the prevailing designs are artificially formal, is mechanical and lacks real feeling.

During the course of this indigenous style in Sind, on atleast two occasions attempts appear to have been made to introduce stone masonry into this brick building country. In the first instance there was produced at Tatta the tomb of the Samma ruler Nizam-ud-din (1461-1509), a stone structure containing much ornamental carving in the style which prevailed in the adjoining country of Gujarat in the fifteenth century. It is possible that some of the stone work of this building is of Brahmanical origin, procured from a neighbouring temple, as there are miniature *shikaras* and other Hindu motifs among its carved details. On the other hand this Samma prince, commonly referred to as "Jam-Nindo" and a notable ruler of his line, may have sent to Ahmedabad for skilled stone workers to erect his mausoleum, as it is in the Ahmed Shahi style, and no great distance separates the Gujarat capital from that of Sind. But a more determined effort to introduce this method of construction into the country was made over a century later by one of the Tarkhan governors, Mirza Isa Khan, who ruled at Tatta between 1627 and 1644. At this time Sind had not long been included in the empire of the Mughuls, and it is significant of the power of the building art inspired by that dynasty that its influence should become manifest in such a distant province. This governor had the inspiration to erect on the Makli Hill a group of tombs, some of them of the ladies of his family and afterwards a mausoleum for himself, all in stone and in what is usually referred to as the Fatehpur Sikri style. All these structures are of a distinctive character, but the ruler's own monument is a work of considerable originality and experienced execution. (Plate XC.)

This tomb consists of a walled courtyard with an arched pylon-like entrance in the centre of its sides. Occupying the greater part of the middle space of the courtyard and raised on a platform is the tomb building, a square structure in two stories and roofed by a dome of slightly flattened outline. One of the chief features of the design of this mausoleum is a double arcade, which surrounds the central structure, each pillar of which is a monolith with stalactite capital, while those of the inner row, together with the interior walls, are richly carved. This arcade is interrupted in the middle of each side by the insertion of a group of three arches, tall and narrow with spear-head "fringe," above which rises a wide panel or parapet, the whole forming a striking example of a local adaptation of elements borrowed from the Akbari style of the Mughuls. It is the character however of the carving on these buildings, which is as profuse as the tile decoration on those of the indigenous types, that is most illuminating. For while bearing some resemblance to the carved decoration on the secular structures at Akbar's capital of the previous century, many of the patterns may be identified as modified copies, translated into low relief, of those on the tiles. In other words they are plastic reproductions of this coloured form of decoration, thus providing an interesting illustration of an attempt on the part of the craftsman employed to convert the brush into a chisel.

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Chapter XXII

THE MEDIAEVAL PALACES AND CIVIC BUILDINGS

No palaces built by the Hindu rulers are now extant of a date earlier than what is termed the mediaeval period. There are literary records and a few remains indicating that large imperial residences and citadels once existed, but no ruins of any architectural significance of these palatial buildings have been preserved. The main reason for this absence of concrete examples is explained by a universal usage which has prevailed in India from the very earliest times not only with regard to the palaces but also the royal cities in their vicinity. For it was a not uncommon occurrence for the ruling authority to inaugurate his reign by building, to suit his own personal needs, an entirely new palace, a measure sometimes accompanied by the removal of both palace and capital to another site, thus leaving the old royal seat deserted, soon to fall into decay. Out of this procedure two facts become evident, one of which was that the conservation of buildings was rarely practised, the policy being almost invariably to build and rebuild, but not to restore. On the other hand the system of rebuilding in a fresh position and according to the most recent conditions, was bound to keep the building art alive as well as the crafts dependent on it, there could have been no more practical method of stimulating architecture and encouraging the artistic propensities of the people than by these means. That this custom of building anew palaces and cities dates from very early times is shown by the fact that before the Christian era the Mauryan capital of Magadha was transferred, rebuilt, reconstituted and even re-named seven or eight times within the relatively short period of three hundred years. Even during Moslem rule the same tradition was maintained as is instanced by the seven cities of Delhi and the episode of Fatehpur Sikri, while a classical Hindu example of a more recent date is that of the royal seat at Amber, now deserted, the state capital having been transferred early in the eighteenth century to the new city of Jaipur.

It is with such historical buildings as those forming the old capital at Amber, and similar centres in Rajputana and Central India, that the present account is concerned, as within this region of independent States there are many examples of imperial palaces, not only of architectural significance but of great imaginative beauty. With one exception however, all these were built subsequent to the rise of the Mughul empire so that the style of each in the main was influenced by that of this great ruling power; in other words the Hindu princes of the period borrowed many of their architectural forms from the buildings of the Moslem dynasty. The one exception is a palace within the fort at Gwalior, designed and constructed just before the advent of the Mughals in northern India, so that it illustrates a style more or less indigenous in its character. It was this building that attracted the discriminating eye of Babur, the first of the Mughul emperors, for on seeing it in 1528 he remarked on its singular elegance "though built in different patches and without regular plan."[1] There is little doubt, however, that from its architectural treatment his grandson Akbar derived some of his ideas for the imperial residences at Agra and Fatehpur Sikri; it was left to this Mughul emperor to study its structure, and to correct its defects in his own productions, while retaining at the same time its natural spirit and grace.

Yet in none of the buildings of the Mughuls, richly decorated though some of these were, did they ever approach the romantic treatment or joyous colouring of this palace, known as Man Mandir, and erected by Maharaja Man Singh (1486-1516) on the heights of Gwalior Fort in the early years of the sixteenth century. With its copper gilt cupolas flashing in the sunlight, as recorded by Babur, and its bold patterns of elephants, birds, trees, *makaras*, and ornament, in blue, green, and yellow glaze, the exterior of this palace shows how these Hindu princes revelled in bright colours and spirited decorative forms. But there is something more than mere brilliant embellishment in this picturesque angle of the historical fort, as its architecture, although inclined to be fanciful, contains many attractive features. Chief among these are the fine rounded bastions that project and support the lofty retaining wall at close intervals, while between each, and breaking the skyline of the perforated parapet, are well-designed balcony kiosks. Then continued around the entire exterior, carried even over the rounded surfaces of the bastions, are several zones of ornamen-

[1] Erskine's translation of Babur's Memoirs, page 384. But Mrs. Beveridge's translation from the original Turki is somewhat different, and gives such an interesting and precise account of these palaces as seen through the eyes of Babur, that it may be quoted more fully. (see also Cunningham's "Reports" Vol. II 1871, pages 346 ff.)

". . . . I visited the buildings (*'imaratlar*) of Man-singh and Bikramajit thoroughly. They are wonderful buildings, entirely of hewn stone, in heavy and unsymmetrical blocks however. Of all the Rajas' buildings Man-singh's is the best and loftiest. It is more elaborately worked on its eastern face than on the others. This face may be 40 to 50 *qari* (yards) high, and is entirely of hewn stone, whitened with plaster. In parts it is four stories high, the lower two are very dark; we went through them with candles. On one (or, every) side of this building are five cupolas having between each two of them a smaller one, square after the fashion of Hindustan On the larger ones are fastened sheets of gilded copper. On the outside of the walls is painted tile work, the semblance of plantain-trees being shewn all round with green tiles. In a bastion of the eastern front is the Hatipul *hati* being what these people call an elephant, *pul*, a gate.

The cupolas which have been mentioned above are themselves the topmost stage (*murtaba*) of the building; the sitting rooms are on the second story (*tabaqat*), in a hollow even; they are rather airless places although Hindustani pains have been taken with them." (The Babur-nama in English, translated by Mrs Beveridge, Vol. II, p. 608 ff)

tation, plastic and coloured, the principal decorative design, that occupying the central division and consisting of an arcade in high relief, adding largely to the vitality of the effect

But it is on the entrance doorway, or Elephant Gate, attached to the palace exterior, and by which admission to the fort was obtained, that the artists employed expended most of their ingenuity. (Plate XCVI, Fig. 1). Thus has been made to form part of the scheme as a whole, and as an artistic production this gateway has few equals, besides according in a most pleasing manner with the design of the palace walls. Protected by two of the rounded bastions, this approach consists of an archway, a guardroom above with a projecting balcony and over all an open balustrade, the entire conception forming a masterly composition and at the same time serving a practical purpose. Perhaps the most skilful part of the design is in the formation of the archway, as by introducing a heavy circular moulding over the brackets of the opening, a contrast of effect has been obtained of no little structural and aesthetic value.

Turning to the interior of the Man Mandir, in several of the apartments the same rich decorative appearance has been maintained, both by means of moulded forms and of coloured glaze But there is little that is stately or palatial in the internal arrangements of this structure, owing to the smallness of its scale. The space that the royal quarters occupy is a rectangle measuring 150 feet by 120 feet, and when it is realized that the ground floor alone is divided up into nearly 40 courts and chambers, the limited size of each will be understood. Moreover the doorways, and openings generally, are only suitable for persons of less than medium height, so that it appears to have been provided more as a retreat for the royal ladies, than a permanent residential palace. In its design too, with the central parts formed of two open courts, not unlike a Roman *atrium*, it might be a nobleman's villa at Pompeii. (Plate XCV). Yet it contains many interesting features, although as a whole it has the appearance of the work of an artist rather than an architect. The main body of the building is in two stories but on the eastern face against the retaining wall of the fort, there are two additional ranges of underground apartments for use in the hot weather The rooms of the uppermost floor have balconies overlooking the open courts below, and above these are roof-terraces in which to take the air, while around the whole are narrow screened passages for communication. It is however, from the decoration of some of these courts and rooms that this interior obtains its character as much of this distinctly innovatory and shows infinite ingenuity. There are round and foliated arches, and one room in the south-east angle has a vaulted roof, with ribs at the groins, but none of the construction is scientific, it is all on the indigenous system of oversailing points Then the projecting eaves of the open courts are formed in a wave pattern not unlike Chinese tile-work while the elaborately bracketted archways, intricately moulded pillars, and finely perforated lattices, display an effort at originality combined with a desire for playful ornateness, which is almost childlike. It is noticeable, however, that throughout there seems not only a want of direction but also of feeling, the workmanship is mechanical and deficient in that human touch which was afterwards to be supplied so bountifully under the inspiration and personal guidance of the Mughuls. Viewed as a whole therefore, this palace, while on the one hand a representative example of decorative architecture, is, on the other hand, also an exceptional type of architectural decoration, and its fault lies in the fact that its designers attempted too much in their effort to fulfil both objects.

The remaining palaces within this portion of the country having been built contemporary with the architectural development of the Mughuls, show by their nature the influence of this dominating style. As distinct from the religious building art these secular structures were less bound by convention and they therefore display more latitude in design and more evidence of individual taste than the temples or shrines In the interior arrangements of such palaces there are few signs of any ordered plan beyond the inclusion of a large durbar hall, and a court of assembly, the remaining space being occupied by a labyrinth of apartments connected by passages, the whole often dimly lit and steeped in that atmosphere of seclusion and mystery which pervaded the palace life of the time.

The exteriors of these buildings are also of a picturesque rather than an orderly character, yet in their design there are certain features, structural and artistic, common to all, so that in spite of wide differences in their composition they present a fairly definite and readily recognised style Chief among the architectural elements which produce this appearance are hanging balconies of all shapes and sizes, and even long loggias supported on rows of elaborately carved brackets. With these are pillared kiosks having fluted cupolas which rise from every angle above perforated stone parapets, while not infrequently there are endless arcades forming the upper stories, every arch engrailed and every opening filled with a lattice screen. But a feature which is most pronounced and almost invariably introduced into every building scheme is a curved cornice or eave, arcuate in shape, and as it is considerably projected, producing shadows arched like a bow. It is the presence of such a graceful and striking element freely distributed over all parts of the building which gives this palace architecture much of its animation and charm. Yet there is something more than architecture in these palaces of the Rajput Princes, these fanciful Pavilions overhanging the stern and lofty ramparts are emblematic of the old-world traditions of their race for chivalry and high advantage, for lore and legend, each incident being reflected in the imaginative manipulation of casement and embrasure, lattice and oriel, as every stone is touched with the spirit of romance.

Of the palaces in Rajputana and Central India built mainly during the sixteenth and seventeenth centuries, the principal examples are those at Bikanir, Jodhpur, Jaisalmir, Orchcha, Datia, Udaipur and the city of Amber (Jaipur). In the eighteenth century the palace

of Bharatpur was erected by Maharaja Badan Singh, that at Dig by Maharaja Suraj Mall about 1750, while Jaipur was founded by Maharaja Jai Singh who reigned from 1699 to 1744. Most of these palaces are extensive and irregular congeries of buildings, often enlarged and altered from time to time, but each displays most of the architectural features enumerated above, and all are romantic and picturesque compositions. For instance, the old palace at Bikanir is a long range of pavilions mounted above a high defensive wall, and formed by a continuous line of balconies and oriel windows of varying design, with kiosks and towers at intervals. Jodhpur crowns a rocky eminence recalling the lines

"Where the huge castle holds its state,
And all the steeps slope down,
Whose ridgy back heaves to the sky,
Piled deep and massy, close and high."

For grandeur of conception and elegance of detail this palace is unsurpassed, its plain bastioned ramparts supporting and acting as a foil to the fretted parapets, engrailed and latticed openings, and gilded cupolas which break the skyline above. Udaipur in addition to its fine architecture, on account of its unique situation beside the Pichola lake, provides a spectacle of such exquisite beauty as to seem almost unreal. With its graceful Tripolia, or three arched gateway in the foreground and its range upon range of fluted turrets in the rear, this noble pile is something more than artistic masonry, it is a memorable vision of loveliness. Hidden within the extensive gold-coloured limestone hills of the Great Indian Desert, a hundred miles from the nearest railway, lies Jaisalmir, a city of mystic beauty. Enclosing it are the walls of the outer fortress with its ninety-nine beetling bastions built by Jaisal in the twelfth century. Within is the palace and groups of residences, the balconies, windows and doorways so exquisitely carved as to form a treasure house of Rajput handicraft. The style of architecture employed is the same as that already described, so that it is obvious most of the buildings in Jaisalmir are of the later mediaeval period, as the curved cornices, foliated arches, and latticed openings plainly prove.

Prominent among these mediaeval palaces, and rivalling even Akbar's deserted pavilions at Fatehpur Sikri in the richness of its architecture, is the royal capital of Amber, once the seat of the rulers of Jaipur State until it was removed to the present city of Jaipur in 1728. (Plate XCIV, Fig. 1) Amber was founded as early as A. D. 928, but most of the buildings now preserved date from the sixteenth century and later, as they were erected during the reign of Maharaja Man Singh (1592-1615), while substantial additions were made by Raja Jai Singh (d. 1668). This city, or more precisely its grand grouping of imperial buildings, for as with the Mughul emperor's creation it was more of a royal ceremonial resort than the capital of the State, occupies a large area of broken ground at the mouth of a rocky gorge and around a pretty lake, the whole securely reposing under the protection of a range of fortresses on the ridge above. In a central position is the great pile forming the palace, a compact aggregation of structures begun in 1600. The main buildings of this palace are within an open courtyard or durbar square, which is approached by means of a fine staircase and through an imposing gateway. Two halls within this square are prominent, the Diwani-Am or Hall of Audience and the entrance to the palace itself, both of which in style are apparently improvisations from the existing architecture of the Mughuls. Of these the former most nearly reproduces the Mughul type of hypostyle hall, its double pillars, clusters of brackets, wide eaves, and high perforated parapet above, being reminiscent of the pavilion known as the Zenana Palace in the fort at Allahabad, the example at Amber having been most probably executed by masons trained in the Akbari style by Mughul overseers.

Almost facing this Diwani-Am but depicting an entirely different aspect of the building art as it is more colourful both architecturally and decoratively than its vis-a-vis and therefore nearer to the Hindu ideal, is the facade and entrance hall to the palace apartments (Plate XCVIII, Fig. 1). In some respects this building is of the same order in its treatment as the brick and tile phase of the Mughul style in the Punjab already described, and contemporary with its finest example, the Wazir Khan's Mosque at Lahore, as it is a part of the palace which was constructed towards the middle of the seventeenth century. But although the structural appearance of this facade with its vaulted alcoves, "Tudor" arches, and panelled walls is somewhat similar, the glazed tiles which are a feature of the Lahore mosque have been replaced by patterns painted in tempera, and in the interior by carved dados and ceilings of inlaid glass, thus producing an equally brilliant although slightly more bizarre effect. A part of the architectural composition of this durbar square consisted in so adjusting the junction between the two buildings described above that a harmonious result was obtained. This was provided by the structure forming the connecting angle being very skilfully graded in its design so that the classical character of the Diwani-Am was joined quite naturally with the less formal palace facade by means of arcades, an artistic expedient indicating that to its builders this problem presented no difficulties—it was part of their experience. Beyond this durbar square and leading out of it is an extensive range of structures consisting of minor palaces, zenana apartments, courtyards, terraces, and gardens, covering a large space and forming the inner precincts of the palace. Some of these edifices are pleasing examples of the builders' art, but none of them approach the elegance of those described above which supply the keynote to the whole.

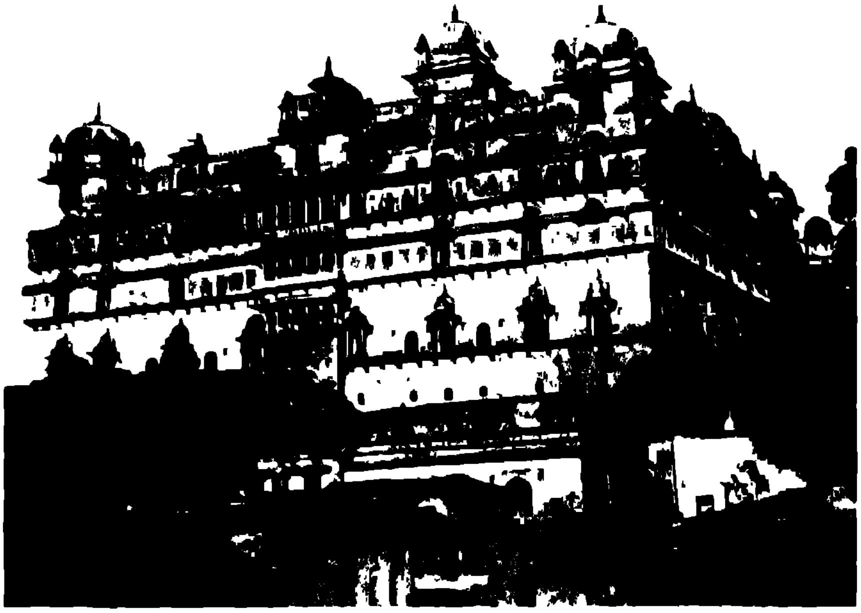
From the foregoing some idea may be gained of the general character of these palaces and the wealth of art thus assembled, but it will have been realized that they are distinctly informal compositions, and often more like a small city than a single place of residence, however comprehensive. Yet there is one group which stands out in marked contrast to these multiform conceptions, on account of the fact that its examples are illustrations of a more complete and symmetrical uniformity.

In that tract of country in Central India known as Bundelkhand, during the sixteenth and early seventeenth centuries, a movement arose both architectural and artistic, sufficiently expressive to be referred to as the Bundela style. This particular movement had been gradually assuming form for some considerable time, the initiative having been taken by Rana Kumbha (1428-68) as early as the middle of the fifteenth century in the palace at his capital of Chitorgarh. Later, but in the same century, further progress was made under the patronage of the Sultan of Mandu who at Chanderi erected a number of buildings distinctive in style which became the model for the architecture of Bundelkhand. This style as it finally developed may be defined as based on the contemporary productions of the Moslems as these evolved under the Sultans of Delhi, but overlaid with elements of indigenous Indian extraction to suit the taste, mode of living, and traditions of the Rajput rulers. Its examples are plainly the result of the same inspiration, each being in what may be termed the later *mediaeval Rajput style, and obviously the achievement* of one of the same hereditary group of master-masons craftsmen well-versed in this form of the building art. *They represent an occasion* when the demand created the supply, for it is quite clear that the intelligent patronage accorded to them by the ruling powers brought out the *genius of the local workmen, the fine flowering* of which is well illustrated by these grand palaces. In each instance the building is square in plan, and the exterior, which is several stories in height, encloses a square courtyard, or *patio*. Externally each story is defined by a wide eave and overhanging balcony, the walls are arcaded kiosks project from each parapet, and each angle is finished by a graceful cupola. The interior is composed of ranges of apartments alternating with open terraces, communication being obtained by means of passages and corridors.

Examples of this Bundela type of palace may be seen in two places, at Orchha, an ancient town some fifteen miles from the cantonment city of Jhansi, and at Datia on the Central Railway. The beginning seems to have been made at Orchha by the Bundelkhand Raja Rudra Pratap (1501-31) who selected a site for his capital seat in a position which, for such a purpose is unequalled in Central India. On an island of rock around which loops the Batwa river necessitating the main approach over a substantial many-arched bridge, the whole commanding a wide landscape of exceptional beauty, he started building operations after the manner of those at Chanderi under the Sultans of Malwa, but before these had progressed far he died. His successor Raja Bharti Chand carried on the work, completing the city walls, erecting the citadel and the first of the three palaces which comprise this group, the Ramji Mandir. The Ramji Mandir at Orchha, although not so striking as the other Bundelkhand palaces is of interest because it is presumed to have been inspired by the Koshak Mahall at Chanderi built a century earlier by Mahmud Shah Khalji of Malwa, and seems to have the archetype from which all these palaces were developed. Consisting of a central rectangular courtyard, around this the apartments arise in receding planes the whole contained within a high retaining wall. The next of the Orchha palaces to be built is that known as the Raj Mandir or Royal Palace, erected probably by Madkukar Shah about 1575 a solid structure in one block and surmounted by a considerable number of small open pavilions, not, however, sufficiently large to be in altogether pleasing proportion with the great mass of masonry of which they form the skyline.

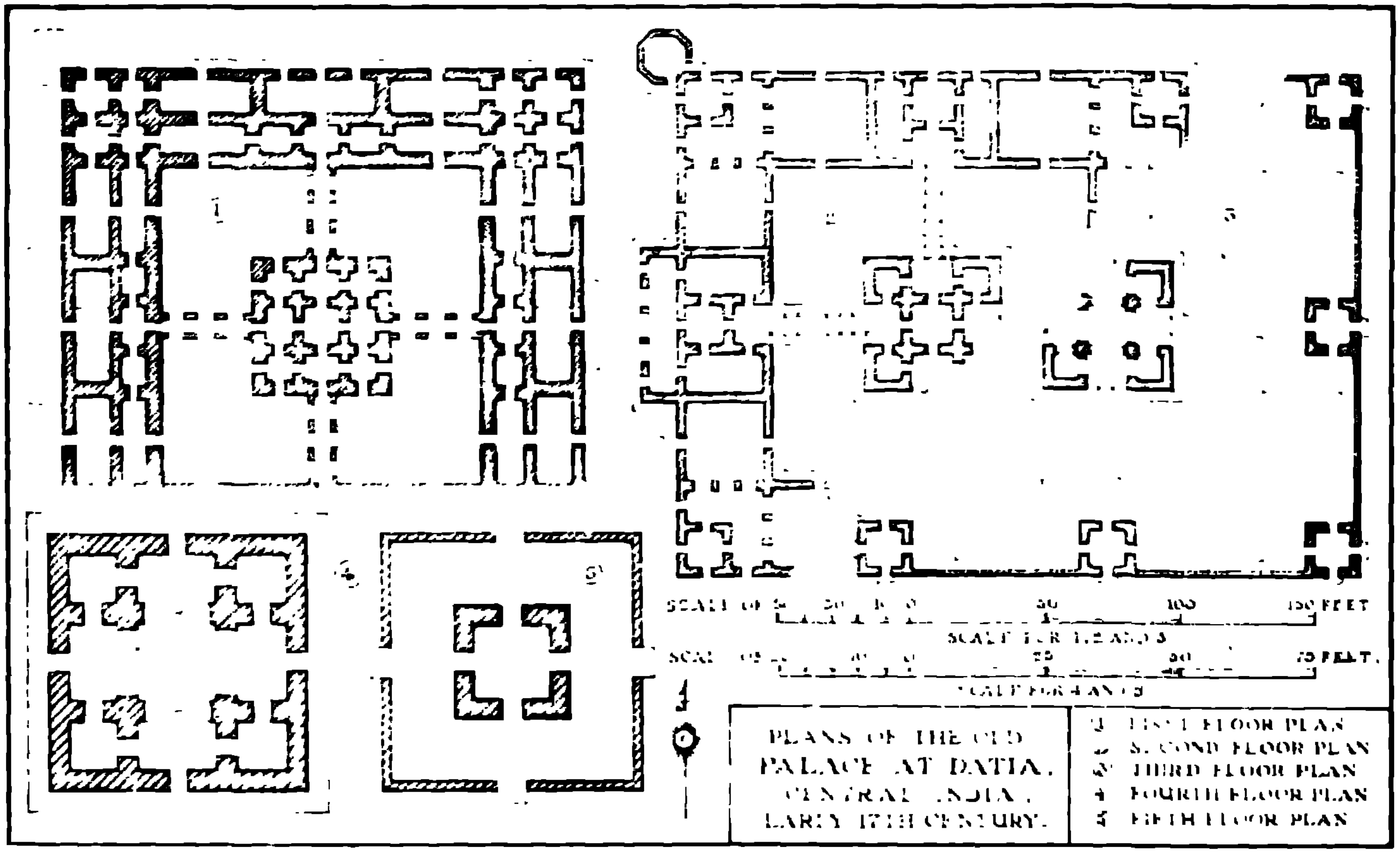
But these earlier palaces were only the preparation for the main buildings of the Orchha palace group, which consist of an imposing castellated residence produced under the direction of Raja Bir Singh Deo (1605-26), and named the Jahangir Mandir after this ruler's contemporary and patron, the Mughul emperor Jahangir. By this time the Bundela Rajas had become paramount in Central India, and Bir Singh represented the dynasty at the height of its power, as shown by this magnificent architectural conception, which adequately illustrates the style. Covering a square of two hundred *and twenty feet side, and rising up into an immense* rectangular mass supporting eight graceful domes, it fulfils all the conditions expected in an Indian mediaeval castle, as it is picturesque, artistic, and romantic, besides being a superb example of the builders' art. Rounded bastions protect each angle, while another form of projection occupies the middle of each side, each of these salient features terminating in a high cupola or dome. Entering by a doorway on the southern facade and passing through a ground-floor hall, one emerges into a square courtyard of one hundred and twenty-five feet side, around which the entire interior is arranged. This interior quadrangle is uninterrupted by any large structure, it is a wide open space containing only a raised platform, with a fountain playing in the centre. It is in the experienced treatment of the three stories ranges of rooms and terraces which enclose this inner courtyard, that gives the building its satisfying architectural appearance.

Although the Jahangir Mandir at Orchha, seen from inside, presents a design of some complexity, in reality it resolves itself into a relatively simple composition. In each angle is located a group of rooms or a suite, and in the middle of each side a similar series of apartments, with the spaces between formed into open terraces, the whole system being not unlike that of Jodh Bai's house at Fatehpur Sikri, built nearly one hundred and fifty years before, but the Orchha palace is immensely larger and more intricately planned. Then, in order to maintain communication with the various parts, each group of rooms was approached by a continuous hanging balcony, which, with its sloping balustrade, wide eave, ornamental brackets, and, in the upper story, its angular passage, is responsible for much of the variety of effect. This great palace was obviously designed so that every part fulfilled its function and expressed its purpose: its rooms were devised for seclusion, its terraces for the cool air, its corridors for convenience, each compartment, court, hall, and passage, had its specific use, and was introduced into the scheme to accord with the requirements of its inmates. But where the craftsmen employed showed their innate skill and experience was





C



SCALE OF
50
100
150 FEET
SCALE FOR 1, 2 AND 3
SCALE OF
25
50
75 FEET.
SCALE FOR 4 AND 5
PLANS OF THE OLD
PALACE AT DATIA,
CENTRAL INDIA,
EARLY 17TH CENTURY.
1 FIRST FLOOR PLAN
2 SECOND FLOOR PLAN
3 THIRD FLOOR PLAN
4 FOURTH FLOOR PLAN
5 FIFTH FLOOR PLAN

the manner in which all the essential elements were artistically treated, and so coherently and consistently assembled on to the great structural background of the building itself as to produce a broad and unified whole. Whether one admires the exterior for its noble effect of mass, or is intrigued by the orderly complexity of its interior, no one can fail to feel that the Jahangir Mandir is a notable architectural achievement. But it is possible to see in this palace something more than a fine example of the building art, for grouped around its rocky base are the remains of inumerable subsidiary edifices, pillared courts, pavilions, gardens, gateways and ornamental retreats, the whole contained within a circuit of massive turreted walls. When the full extent and character of these structures is realized, it becomes obvious that here is the crumbling record of a great spectacular ideal, an architectural conception of more than ordinary splendour, now, alas, being disintegrated by the remorseless action of the encroaching vegetation. (Plate XCIX, Fig. 2.)

Raja Bir Singh's palace at Orchha did not however satisfy this ruler's building aspirations, for about the year 1620 he caused to be built at Datia, some thirty miles away, on an outstanding rocky eminence a castellated palace of such a distinctive character as to stand in a class by itself. Although slightly smaller than the Jahangir Mandir, as its sides are just under 200 feet in length, while the total height to the apex of the central domes is 130 feet—it is not dependent so much on its size for its appearance, as on its effect as an architectural entity. Moreover its height is somewhat illusive as the entire structure stands on an uneven ridge of granite causing its base to be at different level. Partly owing to its system of foundations a remarkable feature is that the whole pile is conceived on a principle not unlike the phenomenon of an iceberg, as there appears to be as much of the structure underneath and out of sight as there is visible above. For the substructure consists of a congeries of large subterranean halls, descending for several stories, some of which are evidently excavated out of the basement rock. A suit of underground apartments, or *taikhana*, even amounting to a complete duplicate of the structure above, was not an unusual plan in the houses of hot countries, where the summer days could be passed in these cool cavern-like retreats, and such appears to have been the object in this particular design. But it is from the upper and visible portion of this great palace that its architectural merits may be estimated. The outer square is in five stories of different heights, each defined by a stringcourse or cornice, and broken at intervals by projecting windows At each corner, and in the middle of each side, rises a large cupola flanked by kiosks, while above the centre, suported by a square gallery, soars the main dome. On the eastern side is the principal facade, and here is a well-designed doorway, but there was also another on the northern face through a series of quadrangles, the two comprising presumably the public and private entrances respectively.

The interior resolves itself into the five stories of apartments visible from the outside, and which face on to the large open space forming the courtyard. In the middle of this courtyard stands the five-storied structure containing the strictly royal compartments and constituting the central feature of the entire composition. This central edifice is not however entirely isolated from the ranges of rooms by which it is surrounded, as it is connected with these by means of four flying corridors, or bridges in double stories, carried across from the middle of each side. The chief effect therefore of the interior is produced by the ingenious innovation of these bridging stories, and their relation to the remainder of the building, as they present a variety of pleasing vistas from whichever point of view, either from a different angle or another level. With each portion enriched by balconies on brackets, wide eaves, arcades, kiosks, and oriel windows, some supported on voluted struts, the variety of surface and play of light and shade give this interior a most animated appearance. But the finest architectural effect is produced by the exterior of this great conception, when seen at a short distance, it forms a most impressive monument, its great bulk surmounted by the elegant, group of domes providing a gratifying spectacle from every aspect. Then it becomes clear that it is a building which has been developed logically out of elements and structures correctly adapted to their purpose, all of which have been combined and composed with a knowledge of architectural propriety of a high order. Strange to relate Datia palace is not only deserted, but according to report, was never occupied, no royal family has ever lived within its precincts, it stands as a superb structural achievement, yet never put to an use. Like a scene in a play, the stage was set, the backdrop and wings were in place, even the auditorium of the city was provided, but the actors never appeared, and, shortly after it was finished time's curtain was rolled down on it for ever. (Plates XCIX and C.)

Those who have seen the palaces of Central India of the early seventeenth century, and also the famous chateaux of the Loire in Central France dating from the first half of the sixteenth century, cannot fail to be struck by a certain resemblance of ideals in both classes of building. Although vastly different in architectural style, there is the same intention in the structural scheme of each, the square plan with corner towers the mass of the lower portion, with the skyline of the one formed of roofs and turret, and in the other cupolas and kiosks; the ranges of openings in the facades, and in the whole conception that appearance of romantic yet stately dignity, fully expressive in each instance of the spirit of their period.

Reverting now to the south of India, although this part of the peninsula is so rich in buildings of a religious order, historical examples of the secular architecture of the Hindus are not common. There are, however, four palaces in the Madras Presidency built in the sixteenth and seventeenth centuries which are representative of the style of the period. The exact sequence in which these palaces were constructed has not been recorded, nonetheless it is possible to trace in them the evolution of their type. Beginning with the

earliest and also the simplest example as it is little more than a pavilion, is the Lotus Mahall, a garden palace built in Vijayanagar (Hampi) about 1575. In its design we see an early impact of the Moslem style of the north on the Hindu architecture of the south. The influence may be observed in the shape of the recessed and foliated arches in this pavilion, reminiscent of the Lodi type of arch in the buildings at Delhi of a generation earlier; on the other hand the pyramidal roof built up in tiers is obviously adapted from the *sikhara* of the Dravidian temple. These are the outstanding features of the example, but there are other minor elements in its composition indicating the effect of the increasing pressure of the intruding building art of Islam on the indigenous style.

The pavilion was followed by the erection of a palace in the fort at Chandragiri by the Vijayanagar rulers early in the seventeenth century, a building of some size and importance, and illustrating the fusion of the Hindu and Moslem styles in a most instructive form. (Plate XCVII, Fig. 2.) In this instance while the Dravidian pyramidal tower is made a prominent feature, the three stories comprising the main body of the building are worked out by means of arcades of pointed arches of a simpler and more orthodox Moslem pattern. In plan it is rectangular, with the front facing south and measuring one hundred and fifty feet across, the lower portion being solidly constructed of stone masonry, but the upper stories are of brick strengthened with a certain amount of wood-work, finally all surfaces were coated with stucco. In spite of its hybrid style there are evidences of considerable experience and skill in the manner of its design and execution both in the layout of this structure and in its architectural treatment. Each story contains a pillared hall in the centre, one of these, the Durbar Hall having its ceiling formed of intersecting arches supporting shallow domes and illuminated by a lighting system resembling a clerestory. It was however in his conception of the exterior, particularly of the frontal aspect of the building that the architect showed the greatest talent, as in the contrast of planes and play of surface he has produced an appearance of marked vitality. By projecting the central portion and the end turrets of the facade, and joining these up by a range of arches, then emphasizing each storey with a prominent cornice on brackets, a structural framework was obtained on which the more ornamental elements were imposed. Surmounting the whole are the Dravidian *sikharas*, seven in all, the central one rising like a tower over the durbar hall while each is crowned by a campaniform finial similar to those on the gopurams of the temples.

It is to be regretted that the form of architecture represented by the Chandragiri palace was not maintained in Southern India, as it had much to commend it, but the next example, the palace at Madura, although a work of considerable magnitude, denotes an architectural retrogression. This vast pillared hall was one of several structural achievements conceived by that powerful ruler Tirumala Nayak (1623-59), and was built about 1645. (Plate XCII.) A glance at its architectural style reveals the existence of a new influence. Up to this point the buildings now being described illustrate a synthesis of the two styles of the country, the Dravidian and the Islamic, in the amalgamation of which the southern artizans displayed exceptional skill. At this juncture however, another and entirely different style intrudes, brought about by the closer relations that were now taking place with the countries of Europe, the effect of which shows itself in the building art of these parts. But it appears as if the builders while competent to bring about a pleasing result when dealing with the two styles of the country, were unable to assimilate and successfully combine in their compositions a third style, and that an occidental one, as the palace of Tirumala testifies. This immense project, its main building measuring externally 450 feet by 250 feet, consists of a spacious interior quadrangle 252 feet by 150 feet with columned aisles on three of its sides and the great Durbar Hall and Throne Room on its remaining side. Added to this at the northern angle is attached another noble hall 140 feet long by 70 feet wide, the whole scheme on account of its large dimensions comprising one of the most imposing productions of its kind. With its massive granite columns forty feet high surrounding the inner courtyard like a peristyle it expresses something of the spirit of the Greek temple, yet above these are foliated arches in brick and stucco reminiscent of the plaster arcades in the courts of the Alhambra in Spain. On the other hand the domes and vaulting of the roofs possess "all the structural propriety and character of a Gothic building".[1] Yet the spectator while impressed by the proportions and fine execution of this great palace will readily become aware that the genius necessary to make of such contrasting elements a co-ordinated and satisfying work of architecture was not forthcoming.

The last of this small group of palaces is that within the fort at Tanjore built about 1700 and in much the same style as the preceding, but less coherent in its composition and less restrained in its decorative treatment. In a word it represents a further stage in the downward trend of the building art. With its stolid yet fantastic eight storied tower and the ebullient character of the stucco ornamentation heavily encrusted over weak and shapeless arches, its classical mouldings and Hindu iconography, this building is of the same order as the structural extravagances perpetrated a century later at Lucknow by the Nawabs of Oudh. Ever a true index to the political, social, and economic conditions then prevailing in both instances, the buildings thus produced reflect a state of affairs when architecture had ceased to be an essential part of the life of the time and had become little more than a material expression of caprice.

From the palatial halls of the ruling princes to the humble habitations of the majority of their subjects is a considerable step, but in certain parts of the country the ordinary people took as much pride in the artistic character of their dwellings as those of royal birth.

[1] Fergusson, *Indian Architecture*, Vol. I, pp. 412-14.

Examples of a good domestic architectural style are however not equally distributed over the country, although even where the houses are of the flimsiest description the hand of the decorator is active, as in the painted huts of Orissa, while some of the rural cottages made of plaited bamboo in Bengal show such a high technical quality that they may be classed as manifest works of art. But where civic architecture has achieved its finest performance is in a region which may be defined as that towards the west-central and northerly parts of the peninsula. Here in Rajputana and as far east as Agra the material used in house-building was stone, while towards the west as in Gujarat and Kathiawar, and north in the Punjab and Kashmir, wood or wood and brick were commonly employed. This domestic architecture is almost entirely confined to the buildings in the towns, the village structures being interesting as examples of folk art, but of the impermanent order found in most country places. In the lay-out of the towns there does not appear to have been any really practical effort at town-planning, although the theory of this subject has been dealt with in considerable detail by the ancient writers. It is true that a system of four main thoroughfares (*char rasta*) aligned at right angles was sometimes attempted, the intersection of these roads forming the central space or focus of the city, with their outer ends leading to the city gates. But as a rule the towns consist of a somewhat fortuitous aggregation of narrow alleys, the height of the houses on each side throwing these into cool shade, the whole effect being not unlike that of some of the medieval towns in Europe.

In the main street of the towns within the stone-building region, houses of the better class people will be found alternating with lovely temple façades and the palatial residences of noblemen, the lower storey of each being fronted with awnings and similar expedients to form traders' booths, a mixture of the formal and picturesque which makes these "bazaars" so human and attractive. But in the quieter side alleys of such towns as Bikanir, Jodhpur, Lashkar (Gwalior), and Ajmir, typical houses are to be found. Such a dwelling will be in three stories having a flat roof enclosed within a balustrade or perforated parapet thus converting it into a terrace for use in the hot weather. Outside, before the ground floor, a platform approached by steps will extend into the street, and on this open air *chabutra* or sitting-out place similar to the Dutch "stoep," the master of the house would conduct his business or entertain his friends. The openings of this story are heavily barred and the only doorway in the centre is a strong wooden one for protection. It is the middle story that gives the architectural character to the house as it may consist of a wide and continuous balcony supported in clusters of carved brackets, its engrailed arches filled with an intricate patterned grille carved in stone. The roof of this projecting story contained within an ornamental balustrade forms a small terrace to the floor above, the windows of which are also screened with stone lattices. One feature of infinite value both architecturally and structurally, is the prominent eave (*chajja*) above the cornice of each story, as its great width casts a shadow which during the hottest hours of the day covers almost the entire frontage of the house and helps to keep it cool. Such is the external appearance of the ordinary middle class dwelling in these parts, although some are so elaborated with carving and even painted patterns that in their small way they equal the rich quality of the palaces, the embellishment of both being in the same regional style. But a universal characteristic of this civic art is the invariable use of the perforated screen, in the carving of which the stone-cutters excelled, some of these workmen specializing in this and producing nothing else all their lives. Most of the designs are geometrical, combinations of the hexagon being the favourite motif, but not infrequently intricate floral arabesques are prepared of exquisite fineness and finish. These screens introduced in such profusion in the domestic architecture for the purpose of enabling the occupants "to see but not to be seen" provide an interesting comment on a mode of life much of which was spent behind the veil. (Plate XCVIII, Fig. 2.)

In Gujarat and Kathiawar the same general description of the houses of the people applies, except that in these parts wood which on occasion is freely painted, takes the place of stone. Of this wooden architecture the city of Ahmedabad displays some excellent types, its bazaars being noted for their elaborately carved house fronts. In the Punjab too the facades of the houses are picturesque compositions of wood in which arcaded balconies are a special feature. That an ancient school of woodwork existed in Lahore, Multan, Amritsar, Dhera, and other towns of the Punjab is proved by the remains of house fronts and in some instances entire interiors of arcaded apartments being still to be found in the more remote *gallies*, dating probably from the sixteenth century and even earlier. The style of these historical examples is very distinctive, consisting of a fusion of Hindu and Moslem motifs with some elements seen only in this class of woodwork and of an unusual character. (See Chap. VI). Farther north in the mountainous country of Kashmir the style of the domestic architecture was conditioned by the climate with its occasional heavy falls of snow, and also by the supplies of wood suitable for building purposes being readily available. In the design and general principles of construction the houses of Kashmir follow the same rules as those employed in the religious architecture of this State, already described.

Closely connected with the town and village life of the people are the *ghats*, or public bathing places, as ablutions form an essential part of the social system as well as of the Hindu religious ritual. They take the form of broad flights of steps leading down to a tank or on the banks of a river, and near at hand is usually a temple or shrine. In the cities, and where these *ghats* have great historical and sacred significance, princes and nobles have on occasion erected palaces above these flights of steps, thus producing an architectural composition always picturesque and often of no little aesthetic appearance. Of this type are the famous ghats of Benares which extend for nearly three miles along the

Ganges river front, and are over twenty in number. Others may be seen at Hurdwar, Mirzapur, and Monghyr, giving access to the waters of the same sacred river, those at Mirzapur being exceptionally rich examples of the builder's art, the work of the adjacent stone carvers of Chunar. Farther south along the banks of the Nurbadda, another river with hallowed associations, are several important ghats having handsome architectural annexes, as for instance that at Meheswar in Ujjain State, while every town of consequence has a tank in its vicinity with a ghat and it shrines at the side.

Most representative of this type of building are the ghats and their structural accessories at Benares, some of which display considerable architectural character. On the ghats themselves an effect is obtained by kiosks and small shrines being interposed along or at the side of the flights of steps, but the more important appearance is provided by the facades of the palaces which form their background.

As the majority of such palaces have been built to the orders of princes and others residing in the more central portions of the country, it is only natural that their architectural style should resemble that in their own dominions. They are of the same general design as the palace forts previously described, and were no doubt produced by the same artisans, transferred to Benares in order to carry out this particular work. But while the fortresses have been devised to guard against attacks by military forces, these ghat structures have been built to withstand the relentless action of the river when in flood and thus prevent erosion and scouring. Accordingly their lower portions consists of massive ramparts with rounded bastions of plain solid masonry, but suddenly changing above into a medley of overhanging and projecting balconies or oriels, much in the manner of the mediaeval citadels. It is mainly this dramatic change from the plain purposeful wall surfaces below, to the light and fanciful structures above, that gives the setting to the ghats such a picturesque and romantic appearance, with its colourful human element grouped about the steps and the whole scene reflected in the water, the picture thus presented has made the riverside of this holy city of the Hindus into a panorama of world-wide fame. While these ghat-palaces display no special architectural originality, at the same time they contain ornamental features such as latticed windows, pillared loggias, and projecting balconies, some of which are equal in elegance to those gracing the walls of the fortresses. Among the examples at Benares mention may be made of the Kedar, the Munshi, and Ahalya Bai's Ghats, all probably dating from the eighteenth century, while one of the oldest is the Man Mandir Ghat erected originally by Raja Man Singh of Amber about 1600.

With the ghats may also be classed the *bunds*, or dams of the artificial lakes which have been constructed by rulers and others in authority in situations where the configuration of the country has been suitable for such engineering projects. Connected with the solid retaining wall forming the essential features of the scheme and which, in order to hold up the volume of water is sometimes a mass of masonry forty feet in height, are flights of steps on the same principle and for the same purpose as the bathing places. Above these is an embankment its flat surface paved with stone on which are grouped *baradaris* (pillared loggias), summer houses, arbours, and ornamental arches of white marble. Such are the Rajsamand to the north of Udaipur, and the Ana Sagar at Ajmir embellished with graceful marble pavilions placed there by the Mughul emperor Shah Jahan, while within close proximity is the sacred lake of Pushkar ornamented in a like manner. Although they command a beautiful situation and have an elegant appearance there is no special architectural significance in these buildings, as they are in the style of their time, and whether created to the order of a Rajput prince or a Mughul emperor, they are the result of that artistic sensibility that pervaded all classes at this period, when it was inherent in their nature to make all things both great and small and whether for utilitarian purposes or for pleasure, into works of art.

CHAPTER XXIII

THE MODERN POSITION

FROM the time that the country came under British rule in the eighteenth century, buildings designed and executed in an occidental style, but adapted to suit the climatic conditions began to be erected at some of the larger centres. Before this took place, however, it should be observed that as several European powers had established themselves at various places in the sub-continent during the previous two hundred years, buildings in the mode belonging to each of these countries had been already introduced in fairly large numbers. Factories, governors' residences, tombs, convents, churches and cathedrals, and even fortresses, according to the plans of the Portuguese, Dutch, French, and Danish settlers were in existence, most of them dating from the seventeenth and eighteenth centuries. Earlier than this, however, in the sphere, of military architecture, contact with the occident was making itself felt. For in the year 1502 the Portuguese master mason Tomaz Fernandes, under the orders of Albuquerque built several fortified factories such as at Cochin, Cannanore, Goa and Calicut, which no doubt displayed elements of the civic building art of their native land. The influence therefore of the Portuguese form of architecture is particularly noticeable, owing to its early date of entry into the country and its definitely longer connection. As a result of this there gradually arose in some of the principal towns dwelling houses in several stories with balconies, loggias, porticos, and patios, having spacious windows often latticed, all reminiscent of the domestic architecture prevailing in the southern parts of western Europe.

This phase was succeeding during the latter half of the eighteenth and the early nineteenth centuries by the construction of a considerable number of important buildings designed by British engineers, and based mainly on the style of architecture that was being practised in England either contemporary with, or just previous to, this period. Not a few of the larger edifices were adaptations of existing buildings in London and elsewhere, showing the influence of such well-known British architects as Wren, Adam, Nash, Corkerell, and the style of the Regency. Examples of this are the Church of St. John in Calcutta finished in 1787 much of the exterior of which was inspired by St. Stephens Church, Walbrook, an early work of Wren's (1632-1723), while Government House in the same city built by Capt. Charles Wyatt of the Bengal Engineers and completed in 1802 in a modified reproduction of Kedleston Hall, Derbyshire, designed by Robert Adam (1728-92). Many buildings for administrative purposes as well as 'garden houses" for wealthy Indians were produced during the first half of the nineteenth century, some of the latter of large size having classical facades, spacious pillared porticos and "elephant" porches and gateways in a style which may be described as "popularized" Renaissance. Where stone was available this material was employed, but in most instances the method of construction was brick or rubble covered with stucco, in the handling of which the Indian masons under British direction showed great aptitude.

During the Victorian period the same architectural practice was maintained, the government buildings being either designed and executed under the supervision of officers of the Royal Engineers or of the Department of Public Works. It was, however, towards the latter part of the nineteenth century that a movement began having as its object the utilization of the indigenous style of the country in preference to the foreign styles hitherto almost invariably employed. The pioneer in this direction was Mr. F. S. Growse of the Indian Civil Service who, when Collector at Muttra and other districts in the United Provinces, was responsible for the erection of several structures which combined features drawn from both European and Indian architectural sources. A little later Sir Swinton Jacob, a Royal Engineer possessing keen artistic perceptions showed in a very practical manner how the Indian styles could be adapted to modern requirements, by the design and construction of several large buildings in Rajputana, such as the new palace at Bikanir and the Museum at Jaipur. In Madras support was accorded to the movement by Mr. R. F. Chisholm and Mr. H. Irwin both of whom have produced notable structures in that city in what has been termed the "Hindu-Saracenic" style, while in the Punjab an accomplished Sikh master craftsman, Sirdar Ram Singh, showed an unrivalled knowledged of the architecture of his own country as testified by the designs of the Central Museum and of the Senate House at Lahore. Mr. F. C. Oertal in the United Provinces and Mr. E. B. Havell in Bengal also used their influence in advocating a revival of Indian architecture, and at a later date Mr. G. Wittet, embellished the civic architecture of Bombay with two important buildings, the "Gateway of India" and the Prince of Wales Museum, both based on the style which prevailed in Gujarat in the sixteenth century.

In the meantime, however, the subject of architecture in India was receiving the attention of the administration, and early in the century, largely through the personal interest of the then Viceroy, Lord Curzon, steps were taken to put the matter in the hands of professional experts. A consulting architect, Mr. J. Ransome, was appointed by the Government of India, a measure shortly followed by the Provincial Governments, also engaging officials with similar qualifications, who associated with the Public Works Departments in the production of important building projects in which a knowledge of architecture was essential. The result of this policy was that a small but very efficient number of professional architects was retained throughout the country, their duties being to co-operate with the official engineers with

the prime object of raising the aesthetic standard of government building. This had the effect of producing in several of the cities of India structures of considerable architectural merit and in which the governments concerned could take a legitimate pride. Moreover it aroused interest in the subject of architecture generally and an improvement is noticeable from now onward in the building art as a whole, as it became officially recognised. During this period two building projects of outstanding importance were undertaken, the Victoria Memorial Hall in Calcutta designed by Sir William Emerson and opened in 1921, and the new capital at Delhi, the work of Sir Edwin Lutyens and Sir Edward Baker formally inaugurated in 1930. The former, constructed almost entirely of white marble from the quarries of Makrana in Jodhpur State, which supplied the same material for the Taj Mahall at Agra, is a monument typical of the age it commemorates, as its architectural appearance is in the Renaissance style but embodying certain elements and motifs drawn from Indian sources. New Delhi on the other hand is a vast structural complex fundamentally classical in its architectural character as the columned facades of its main buildings plainly testify, but incorporated with this are large structural features some of Indian extraction and others self-originated, the whole bearing the impress of the two distinguished architects who conceived it and saw it put into execution.

At the same time that these two great building schemes were under construction the conflict of the styles continued carried on by those interested in the subject and whose aims finally became resolves into three schools of thought. In the first place there were those who considered that a revival of the indigenous buildings art of the country should be the aim, while another group was to the opinion that an occidental style should be employed, modified only by the changed conditions and materials. Further there was a third party who favoured a middle course and what was described as "an Indian form of Renaissance architecture with detail suited to India, and carried out by Indian craftsmen," was recommended. So keen became the controversy stimulated in 1911 by the proposals for the building of New Delhi that the India Society, London, approached the Secretary of State with a request for information from the Government of India on the state of architecture as practised by the master-craftsmen of the country. The result was the publication of a volume by Mr. Gordon Sanderson of the Archaeological Survey of India on his investigations, which, however, the able author is careful to explain were confined to the "local architecture of a small portion of northern India, and that but briefly."[1]

In spite of the restricted nature of these inquiries useful information was obtained relating to the present day condition of the building art. The principal object was to find out whether the modern Indian craftsmen possessed the necessary capacity to create a substantial work of architecture in the indigenous style which would compare favourably in its constructional treatment with the building art of the West. As far as the aesthetic nature of such productions was concerned the researches elicited the fact that the artisans still retained their noted hereditary skill in the fields of design and manipulation of material, their ability in this aspect of their art being unquestionable. Not only had they a remarkable facility in handling masonry and in everything connected with the use of stone, but many of them also possessed a useful working knowledge of the allied crafts such as carpentry and metal work. In this respect the Indian master builders were obviously of a type similar to the mediaeval masons who produced the buildings in the Gothic style in Europe, versatile workmen thoroughly imbued with the principles and practice of their trade. But when the authority concerned came to inquire into the structural methods employed by the Indian builders it was clear that the same high quality of workmanship was not observable, his systems were primitive, his materials defective and his technical procedure was not always sound, in short his constructional experience had not progressed with the times.

To appreciate the position it is necessary to realise that in its broad sense the building art resolves itself into two operations, the artistic and the constructional, which, correctly synthetized, produce the true work of architecture. Briefly, good building is a combination of art and science. The fault with the Indian workman lies in the fact that he is so supremely artistic that his art invades the field of science, with the result that his construction too tends to become artistic, in other words he is an artist first and a technician afterwards. Moreover, for his art he has always relied largely on tradition, a factor which has its uses and abuses, it is better a servant than a master, and it is possible that at times the Indian craftsman in this connection has been inclined to allow his forebears to do his thinking for him. Tradition also can be a danger in the sphere of construction; art, within modern times, has tended to slow down, but on the other hand construction has been speeded up, new methods, processes, scientific devices, and materials have been invented with which the Indian workman has often only a slight acquaintance. Education, increased experience, and more knowledge of materials and practical and technical systems seem to be required to bring the Indian workman abreast of modern performance. From this it is evident that some instructional organization is needed which will correct these deficiencies, a duty which it may be added is now being undertaken. The Bombay Government has for some years provided a school for architectural design and its practical application to modern conditions, while the University of Calcutta is supporting a similar proposal, both having as their object that of preparing young Indians to qualify as professional architects equipped with a thoroughly sound knowledge of the building art in all its branches. There is little doubt that such a course of action will have good results.

As to the form of architecture that the Indian trained in this manner will produce, in a word, as to the future,

[1] *Types of Modern Indian Building*, Allahabad, 1913.

the building art in India is passing through the same stages of transition as in other parts of the world, a formative period is now ensuing which is effecting all human activities. As far as the constructional aspect of modern architecture in India is concerned, although stone will no doubt continue to be used where it is readily available, there are indications that ferro-concrete being cheaper, stronger, and more adaptable, will be commonly employed, especially in regions susceptible to earthquakes. This technical process will naturally condition the style that will eventually develop, and it is feared there will be a tendency to subordinate individuality and nationality, so that all buildings will be of a standardized pattern. Nonetheless there are the germs of a movement becoming observable which suggest that a trend in the direction of reviving the styles of architecture indigenous to India is in contemplation, and it is hoped that some genius will arise who will combine the beauty and the spirit of the old national art with the methods and ideals of the new age.

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GLOSSARY OF TERMS

A

Abacus, *phalaka* or *palagai*, a square or rectangular table forming the crowning member of a capital.
Acanthus, a genus of plants, used conventionally in Greek art.
Acroterium, a figure or ornament placed on the apex or at the lower angles of a pediment.
Aisle, lateral divisions running at the sides of the nave.
Alcove, vaulted recess in wall.
Amphitheatre, oval or circular building, with seats rising above and behind each other round a central open space.
Antechamber, chamber or small hall in front of a larger hall, vestibule.
Arabesque, decoration with fanciful intertwining of ornamental elements.
Arbour, a structural retreat, often of lattice-work in a garden.
Arcade, range of arches supported on piers or columns.
Architrave, the beam or lowest division of the entablature which extends from column to column.
Arcuate, arched
Arris, corner or angle; sharp edge formed by the meeting of two surfaces
Ashlar, squared stone work in regular courses, in contradistinction to rubble work.
Astanah, threshold.
Atrium, court open to the sky in the centre (Roman.)
Attic, the upper story of a building above the main cornice of Athens or Attica.

B

Balcony, outside balustraded platform
Baluster, balustrade, a small pillar or column supporting a handrail
Baradari, lit. "twelve pillared," a pillared portico or pavilion, columned building.
Barbette, platform within the wall of a fort
Barbican, an outwork intended to defend the entrance to a castle or fort
Barge-board, projecting roof to a gable.
Barrel-vault, cylindrical form of roof or ceiling.
Bartizan, battlemented parapet, or overhanging corner-turret.
Basalt, dark green or grown igneous rock.
Bas-relief, carving of low projection
Bastion, projecting part of a fortification.
Batter, slope, rake.
Battlements, indented parapet, *kanjur*.
Bauli or *Wav*, step-well of Gujarat and western India.
Bay, a division or compartment; between pillars, a *chauki*.
Bazaar, market
Beam, lintel, long piece of stone or wood supported at each end.
Boast, boasting, stone projection left for the purpose of carving.
Boss, ornamental projection in form of a large knob.
Bracket, projecting ornament or support
Bulbous, shaped like a bulb, nearly spherical.
Burj, tower
Buttress, support built against a wall.

C

Campanile, Italian for a bell-tower, usually detached.
Canopy, covering over a niche
Casement, a form of window.
Causeway, raised road
Cavetto, simple concave moulding.
Ceiling, covering surface under roof.
Cenotaph, Sepulchral monument
Centering, temporary construction on which the stones of the arch are mounted.
Chabu'ri, pavilion: also raised platform for sitting.
Chajja, overhanging cornice, eave.
Chhatri, kiosks, or small pavilions, acting as turrets on the roof.
Chillah khanah, room to which hermits withdraw for forty days.
Corbel, blocks of stone projecting from a wall or pier: brackets.
Core, inner construction of a wall or other architectural feature.
Corinthian order, the most ornate of the Greek orders of architecture.
Cornice, any crowning portion or projection.
Corridor, passage in a building.
Cramp, metal bar for holding masonry.
Crenellated, furnished with battlements or loop-holes.
Cupola, *stringa* spherical roof.
Cusp, cusped, projecting point between small arcs of an archway.

D

Dargah, in India designation of a Mohammedan shrine or tomb of note.
Diaper, small floral pattern repeated continuously over a wall surface.
Distyle in antis, term for a facade having two columns between pilasters or antes.
Diwani-Am, Hall of Public Audience in a Muhammedan palace.
Diwani-Khas, Hall of Private Audience in a Mohammedan palace.
Dormer, window in a sloping roof.
Double Dome, composed of an inner and outer shell of masonry.
Drum, or collar, circular wall on which the dome rests.
Durbar, Indian court or levee.

E

Early English, first of the three divisions of Gothic architecture in England, evolved during the thirteenth century.
Eaves, *chajja*, lower portion of a roof projecting beyond the face of the wall.
Echinus, ovolo member of the Greek Doric capital, also a somewhat similar feature in the Ionic capital.
Enceinte, enclosure.
Engrailed, foliated, cusped; an arch having arch within its curves.
Entablature, upper portion of a structure supported by a colonnade
Extrados, upper or outer curve in arch construction.

F

Facade, front view or elevation.
Faience, earthenware, porcelain.
Fan-light, fan-shaped window over door.
Fenestration, with windows or openings.
Filigree, fine ornamental work: delicate tracery.
"Filling," the repeating pattern on the largest or central space of a wall.
Finial, finishing portion of a pinnacle.
Flange, projecting flat rim, collar or rib.
Fleche, slender spire
Fluting, vertical channelling on the shaft of a column.
Formeret, rib of vaulting attached to the wall.
Forum, public place, place of assembly, especially at Rome.
Fret, fretwork, ornamental pattern usually carved and perforated.
Frieze, upper border · middle division of entablature.

G

Gable, gable-end, triangular portion of roof.
Gallery, passage common to rooms in an upper story.
Galli, small street or lane.
Gargoyle, projecting water-spout in Gothic architecture.
Garth, small garden within cloisters.
Ghat, platform or steps at edge of water.
Girder, beam for support.
Gothic, pointed arched style prevalent in Western Europe during the 12th to the 16th centuries.
Grille, grating, latticed screen.
Groin, angle formed by the intersection of vaults.
Gumbad, local name (Delhi), for a dome, or domed tomb.
Gumbaz, dome.

H

Half-timbered construction, building formed of a wooden framework with the interstices filled with brick or plaster.
Hammam, Turkish bath.
Hammer-beam roof, late Gothic form of wooden roof without a direct tie.
Headers and Stretchers, bricks bonded with their short or long faces placed alternately.
Hellenic, ancient Greek.
Hirah, camp city of the Arabs.
Hujrah or *astanah*, tomb-chamber in a Mohammedan tomb.
Hypostyle, pillared hall.

I

Iconography, represented by figures.
Idgah, Persian word for the *musalla* or praying place used on the two chief Moslem festivals.
Impost, member on which the arch immediately rests.
Intarsia, a mosaic of tinted or natural wood, etc.
Intrados, inside surface of an arch.

J

Jali, literally "net," any lattice or perforated pattern.
Jamb, sides of the openings of doors and windows.
Jami Masjid, Congregational Mosque.
Jawab, lit "answer," a building which repeats another for the purposes of symmetry.
Joggle joint, stones resembling the voussoirs of an arch but placed usually in a straight line

K

Kadal, bridge (Kashmir).
Kanjura, stepped battlement, merlon.
Kashi-work, special kind of glazed tiling, probably derived from Kashan in Persia.
Keel, like the keel of a ship.
Keep, tower of a fort, stronghold.
Keystone, central stone of an arch.
Kiosk, *chattri*, small pavilion, generally on parapet or roof.
Koti, house.
Kotla, citadel.

L

Liwan, pillared cloisters of a mosque.
Loggia, a gallery open to the air ; verandah.
Lunette, crescent shape ; semicircular space or opening.

M

Macabre, from *maqbarah*, a cemetry (Arabic); connected with death.
Machicolation, parapet of fortress with openings for dropping missiles.
Madrassa, school, college.
Mahall, palace.
Minarah, call to prayer.
Maqbarah or *taikhana*, mortuary chamber of a Mohammedan tomb.
Maqsura, screen or arched facade of a mosque.
Mashrabiya, lattice work formed of small pieces of wood jointed together.
Masjid, mosque, lit "place of prostration.'
Mausoleum, large tomb building.
Mezzanine, low story between lofty ones.
Mihrab, the niche or arched recess in the western wall of an Indian mosque and towards which worshippers turn for prayer.
Mimbar, pulpit in mosque.
Minar, minaret, slender turret of a mosque from which the *muezzin* gives the call to prayer.
Moat, deep wide ditch surrounding a fort
Modillions, projecting brackets in the classical orders
Monoblock single piece of concrete composition.
Monolith, single block or stone shaped into a pillar or monument.
Mortar, mixture of lime, sand, and water for joining stones or bricks.
Mortice, hole cut to receive a projection, especially a tenon
Mortuary chamber, *maqbarah or taikhana*, underground compartment of a Mohammedan tomb
Mosaic, decoration formed of small cubes of stone, glass, marble or composition.
Moulding, the contour given to projecting members.
Mullion, upright members used to divide openings in to smaller spaces.
Mural, wall, wall decoration.

N

Naqqar Khana, Drum House, arched structure to announce arrival by beat of drum.
Naubat Khana, same as *Naqqar Khana*.
Nave, the central or main compartment of a building.
Niche, recess in wall for the reception of a stature or ornament
Nook-shaft, detached pillar in a doorway, opening or pier.

O

Obelisk, tapering, usually monolithic, shaft of stone with pyramidal apex.
Ogee, a form of moulding or arch, the curves of which resemble the cyma reversa (q v)
Opus sectile, a marble intarsia (inlay) of various colours.
Order, in architecture signifies a column with its base, shaft and capital, and the entablature which it supports.
Oriel, projecting window.
Oversailing, system of construction in domes or arches where one course of bricks or stones projects over the course below.
Ovlet aperture in a fortified wall from which to discharge missiles
Ovalo, convex moulding.

P

Pagoda, tall structure in several stories.
Palimpsest, an inscription or manuscript over which another has been subsequently written.
Palladian, in the pseudo-classical style of the 16th cent
Panel, sunken compartment in a wall etc
Parapet, upper portion of a wall, above the roof.
Parterre, level space in a garden occupied by flower-beds.
Parthenon, Greek temple at Athens, ideal of classic architecture
Parvis, priests chamber
Patina, green film that covers materials exposed to the air.
Patio, open court of a Spanish dwelling.
Pavilion, *chavada, chabutra*.
Pediment, triangular termination of the roof in a classic temple.
Pendentive, triangular surface by which a dome is supported on a square compartment
Peripteral, surrounded by a range of columns.
Peristyle, range of columns surrounding a court or temple.
"Phase of transition," structural system by which a square hall alters its shape above in order to accommodate the circular base of a dome
Pier, supporting mass other than a column.
Pietra dura, inlaid mosaic of hard and expensive stones.
Pilaster, square pillar projecting from a wall.
Pinjra, lattice work
Pinnacle, *guldasta*, small turret-like termination.
Plan, representation of a building showing the general distribution of its parts in horizontal section.
Plastic, modelled or moulded.
Plateresque, plateresce, over-florid ornamentation in the Spanish Renaissance style resembling intricate silver-work.
Plinth, (*piha*) lower portion, or base, of a building or column
Polychromatic, many-coloured
Porch, structure in front of doorway.
Portal, doorway.
Portico, space enclosed within columns.
Postern, back door, side way or side entrance.
Pylon, propylon, tall monumental gateway.
Pyramidal, inclining to an apex like a pyramid

Q

Qabristan, Mohammedan tomb
Qibla, direction for prayer.
Qila, fort.
Quadrangle, four-sided figure or court
Quattro-cento-fifteenth century as period in Italian art
Quoin, corner stones at the angles . angle of a building.
Qutb, stake, axis or pivot , highest stage of sanctity among Moslem saints

R

Rampart, broad topped defensive mound or structure
Random rubble, masonry formed of stones of irregular size and shape
Rang mahall, painted palace, one of the most sumptuous pavilions in a palace fortress
Rauza, large and important Mohammedan tomb
Refectory, dining hall in a monastery or college
Reliquary, receptacle for relics
Renaissance, revival of art and letters in Europe under the influence of classical models in 14th - 16th centuries
Rib, projecting band on a ceiling or vault
Ridge, highest point of a roof, running from end to end
Rococo, style with debased Renaissance features.
Roll moulding, also called scroll moulding from its resemblance to a scroll of paper
Rood loft, raised gallery in front of the chancel of a church or cathedral.
Rood screen, framing separating the chancel from the rest of the building
Rosette, rose-shaped ornament
Rose, window or wheel window, circular window with mullions converging like the spokes of a wheel
Rotunda, building of circular ground plan, circular hall or room
Rum, ancient Byzantine, or Eastern Roman Empire - name for the Turkish Empire
Rustication, method of forming stonework with recessed joints

S

Sahn, open courtyard of a mosque
Sarai, caravansarai, halting place
Schist, type of rock metamorphic, and fissile (split) in character, dark slate coloured
Seraglio, walled palace
Severies, infilling of a wall, arch, or dome
Shaft, portion of a column between base and capital.
Soffit, underside of any architectural member.
Spandrel, triangular space between the curve of an arch and the square enclosing it
Squinch arch, arches placed diagonally at the angles in the interiors of domes to connect from square to round
Staggered, not opposite, not in line
Stalactite, system of vaulting remotely resembling stalactite formations in a cave
Stele, upright slab or pillar sometimes inscribed as a grave-stone.
Stellate, arranged like a star, radiating.
Stencil, pattern inscribed or painted by means of a cut plate.
Stereobate, solid platform.
Stilted arch, an arch having its springing line above the impost to which it is connected with a vertical walling or stilt.
String-course, a horizontal moulding often under a parapet.
Strut, wood, stone, or iron set up to bear weight or pressure , a brace.
Stucco, kind of plaster or cement for coating surfaces.
Stylobate, the base or sub-structure on which a colonnade is placed.
Suna, religious practice.
Supercolumniation, one row of pilasters or pillars in a story above another.

T

Taikhana, underground apartments, cool retreats from the fierce summer heat
Temenos, sacred precincts of a temple or sanctuary.
Tempera, distemper ; method of mural painting by means of a "body" such as white pigment.
Titanic, gigantic, superhuman.
Topiary, art of clipping shrubs into ornamental shapes.
Torus, convex moulding chiefly used in pillar bases.
Trabeate, use of beams in construction as distinct from arches
Tracery, ornamental perforated pattern.
Transept, cross or transverse compartments of a building.
Transome, horizontal divisions or cross-bars to windows.
Trefoil, arranged in three lobes.
Triforium, gallery or arcade above the arches of the nave.
Truncated, cut off at top
Truss, support for a roof, bridge, etc.
Tudor Gothic, late perpendicular style which flourished in England from the reign of Henry VII to that of Elizabeth, 16th century
Turrets, small towers.
Tympanum, triangular space within the cornices of a pediment

V

Vault, arched covering over any space
Vestibule, ante-room
Vitruvius, Roman architect, military engineer, and writer, in the days of Caesar and Augustus.
Volute, scroll or spiral.
Voussoir, wedge shaped blocks forming a true arch.

W

Waggon-vault, semicylindrical roof like a waggon tilt or cover
Wing, sides, the lateral extremities of a building.

Z

Zarih, cenotaph in a Moslem tomb.
Zenana, woman's apartments
Ziggara or *Ziarat*, tomb of holy personage.

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ADDITIONAL PLATES

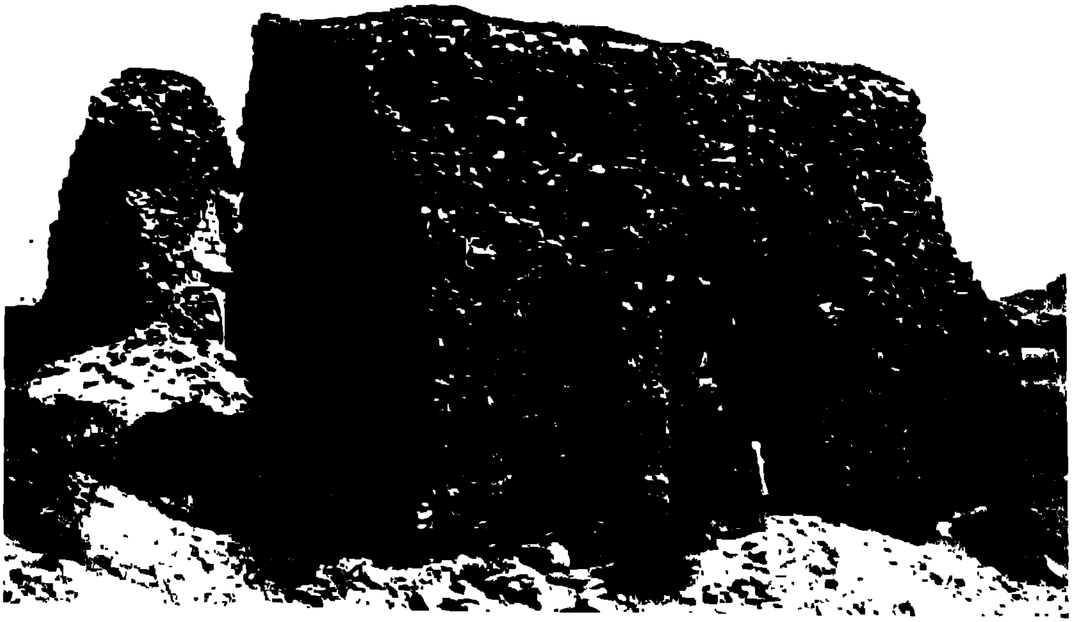


Fig. [illegible] [illegible]

[illegible]



Fig. [illegible] Delhi [illegible]

[illegible]

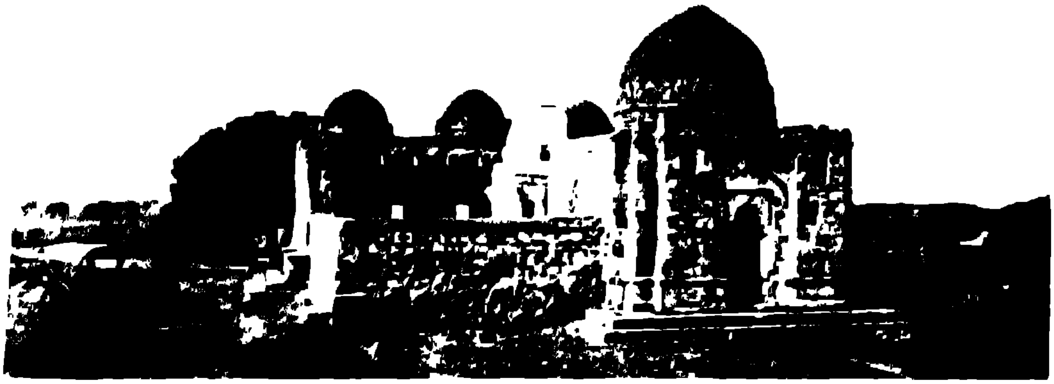


Fig. 1 [illegible]

[illegible]



Fig. 2 [illegible] Khirki Masjid

([illegible] India)

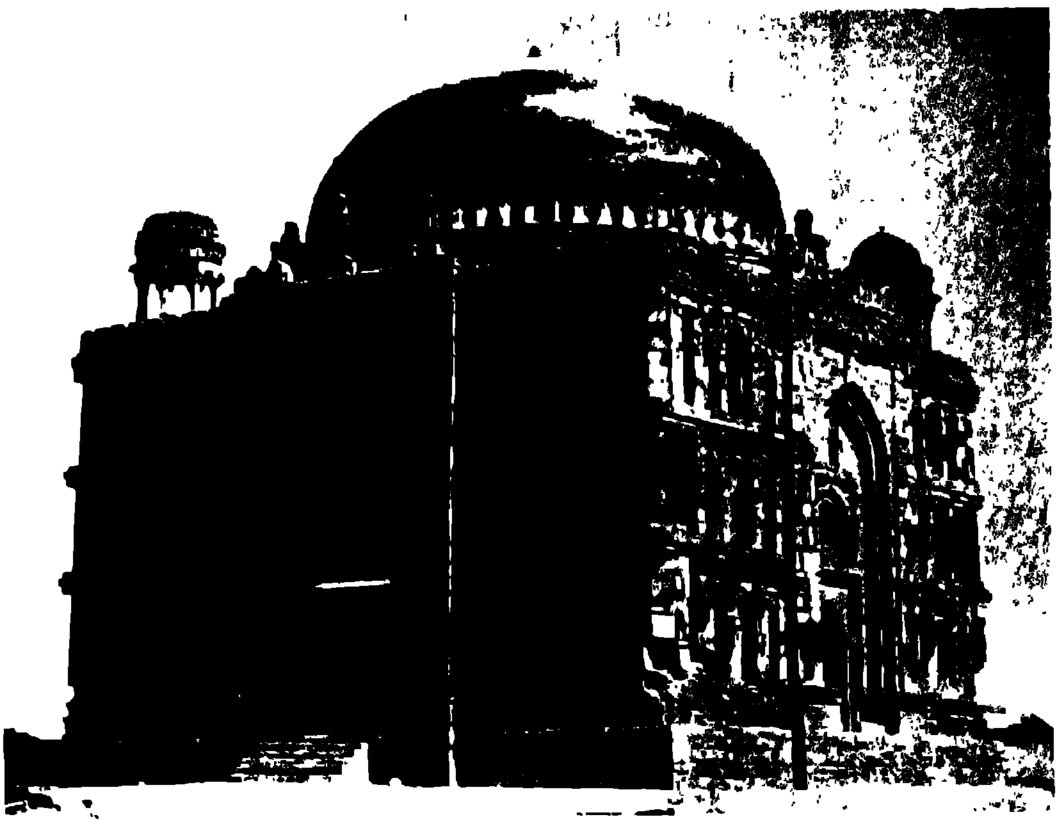


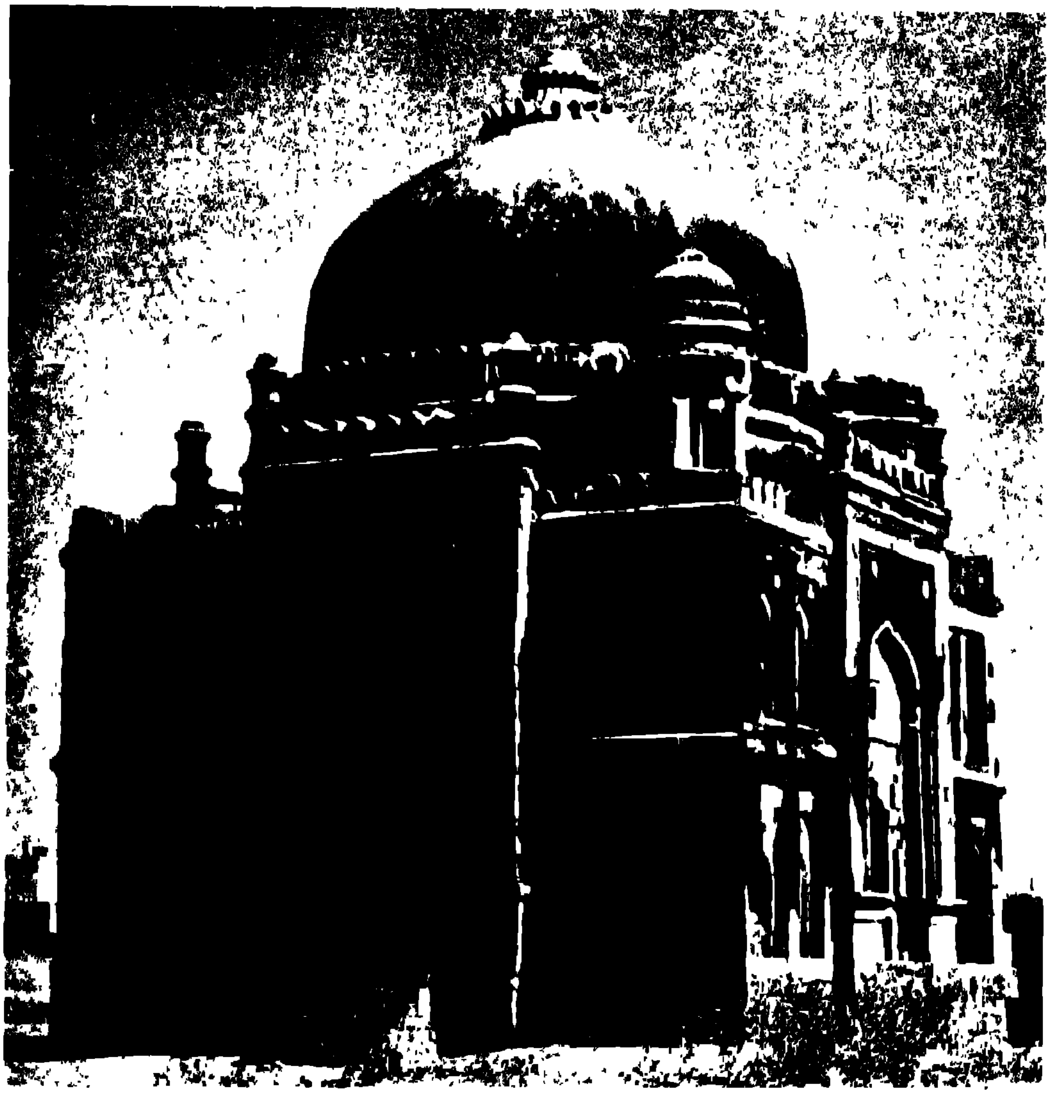
Fig. [illegible] Delhi: Tomb of Khan-i-Jahan Tilangani
(Copyright Department of Archaeology, Government of India)



Fig. [illegible] Kharera, near Delhi: Lal Gunbad or the Tomb of Kabir-ud-Din Auliya
(Copyright Department of Archaeology, Government of India)











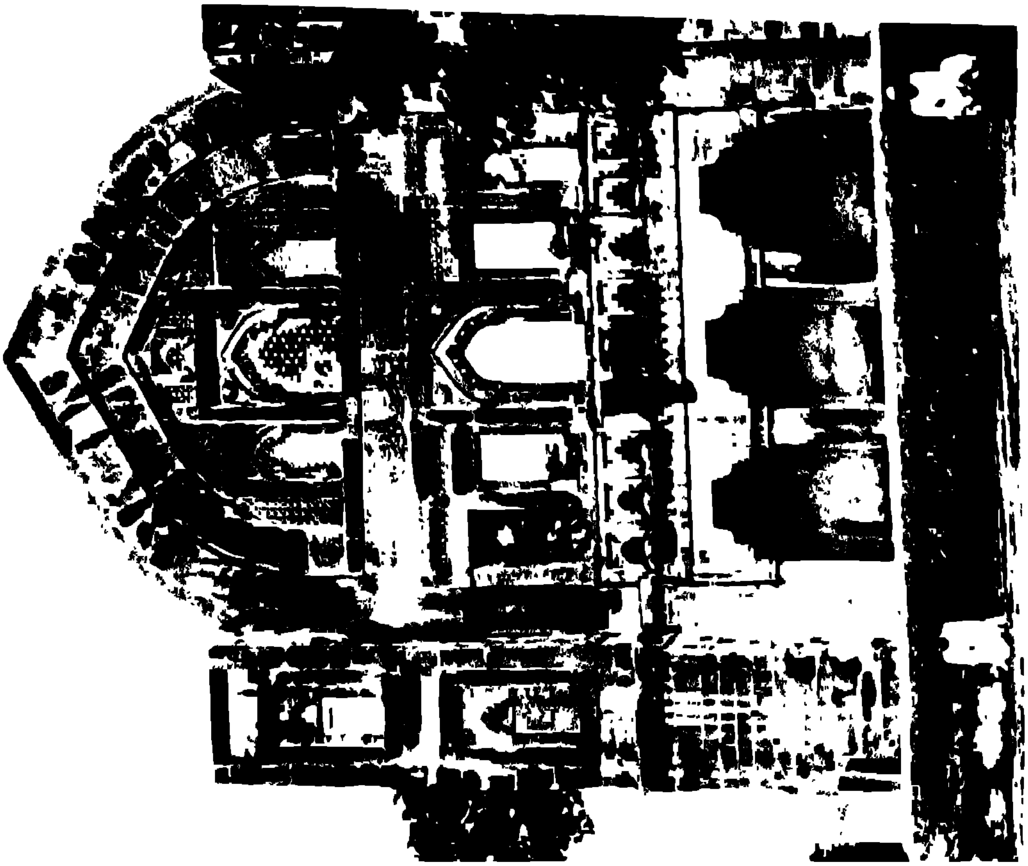


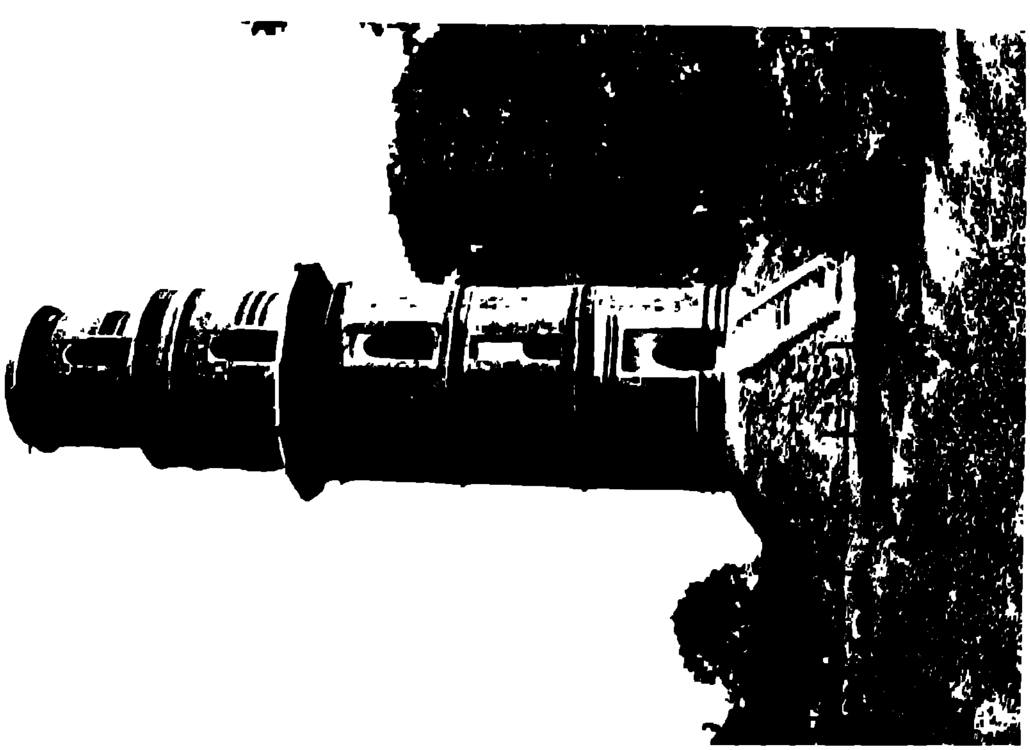


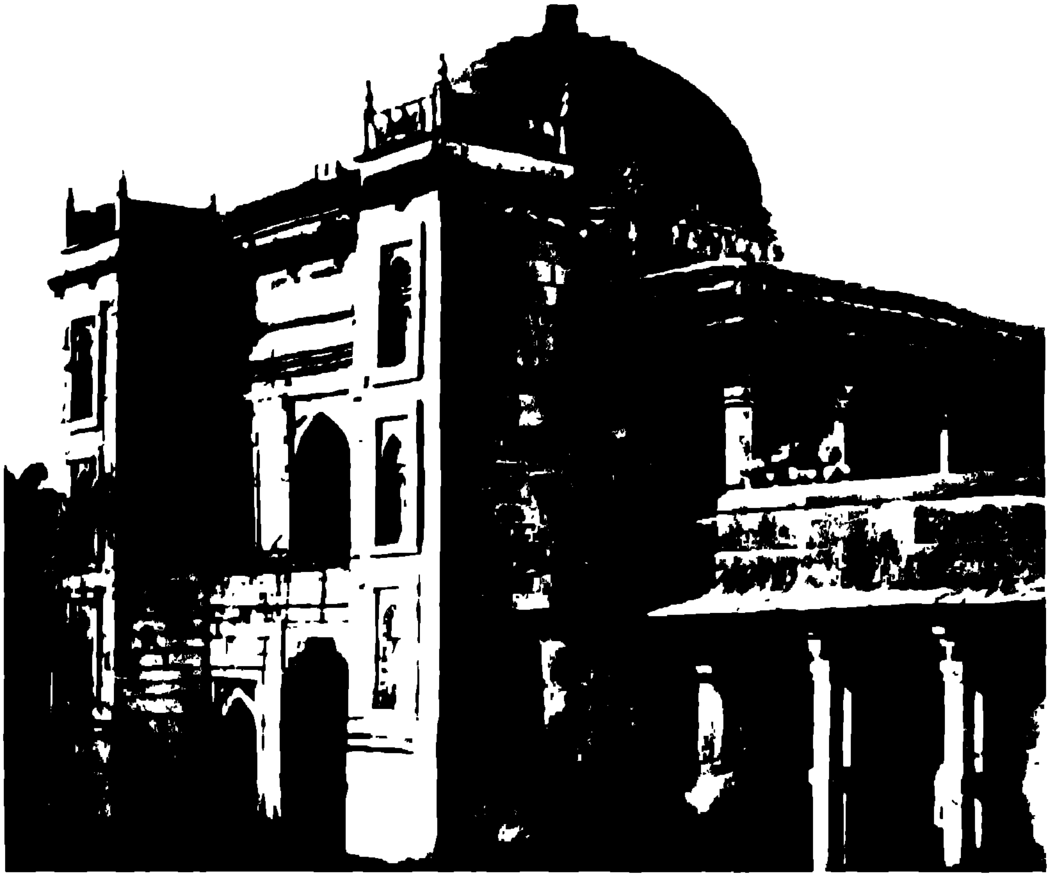




CIX

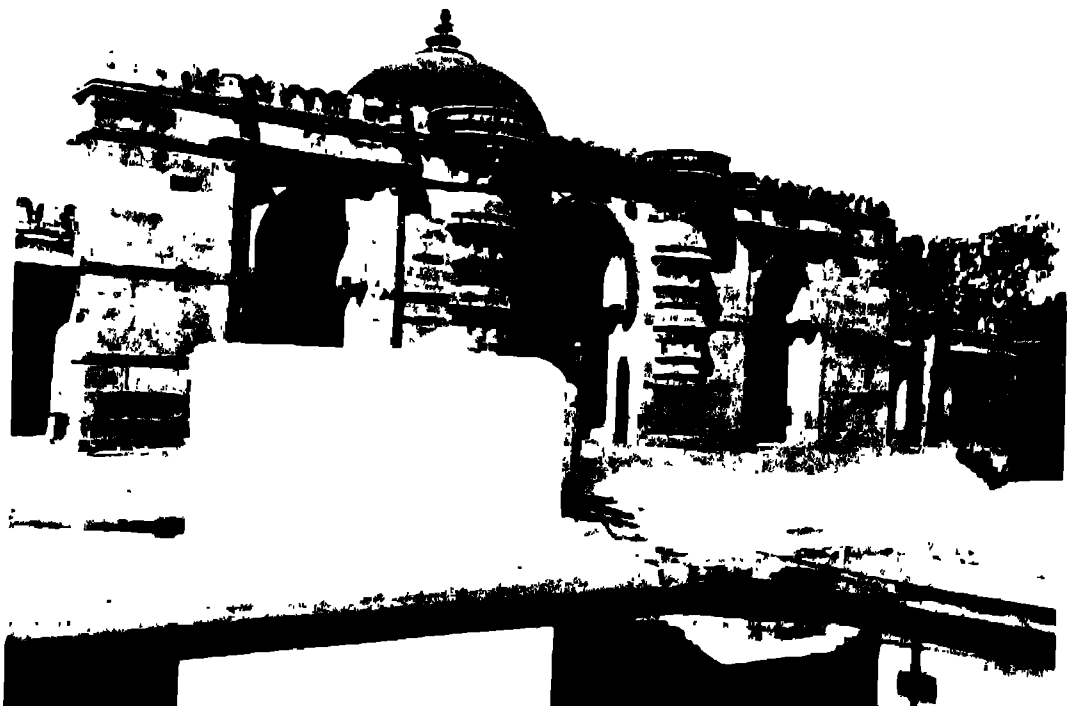




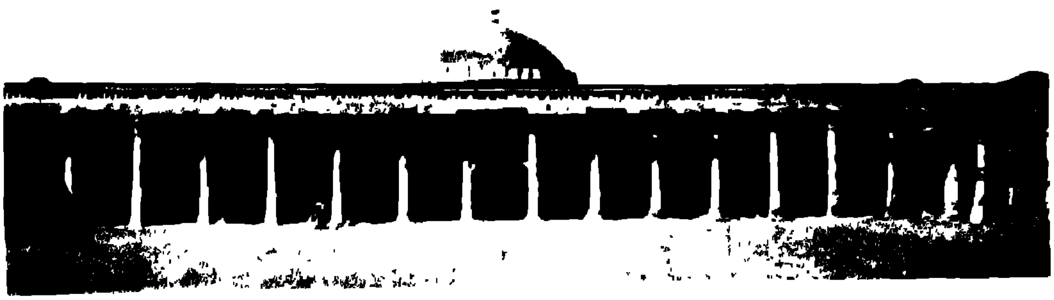


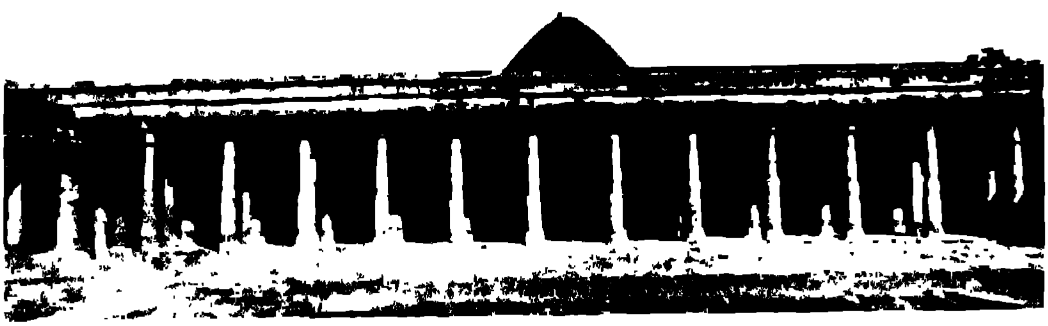


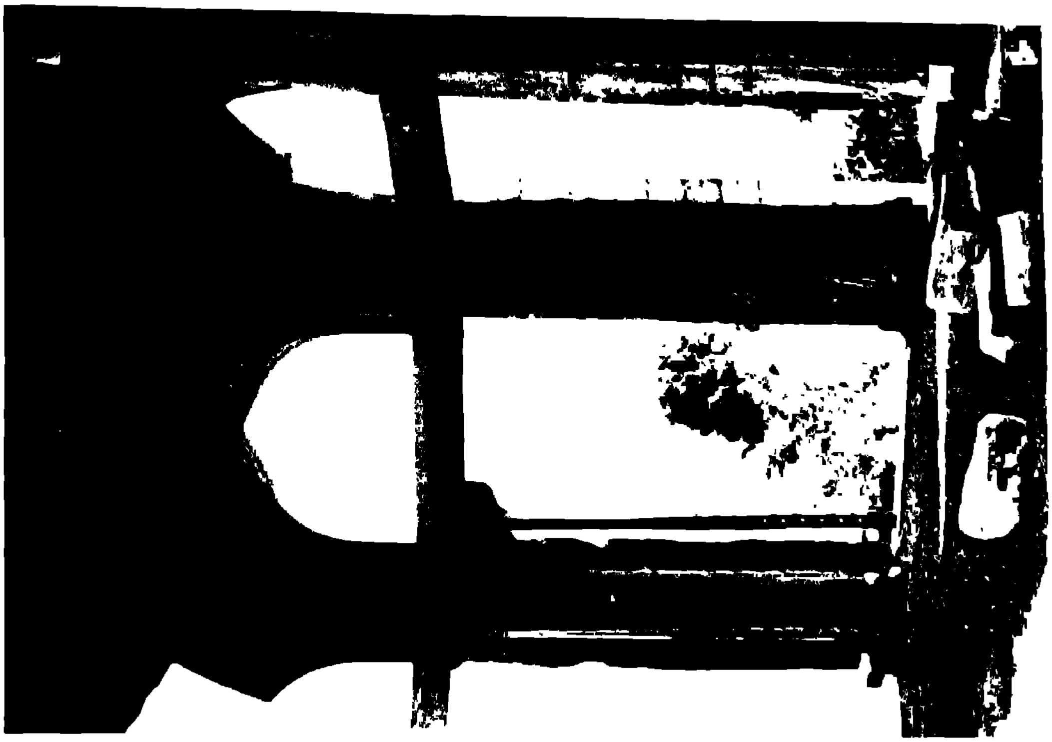


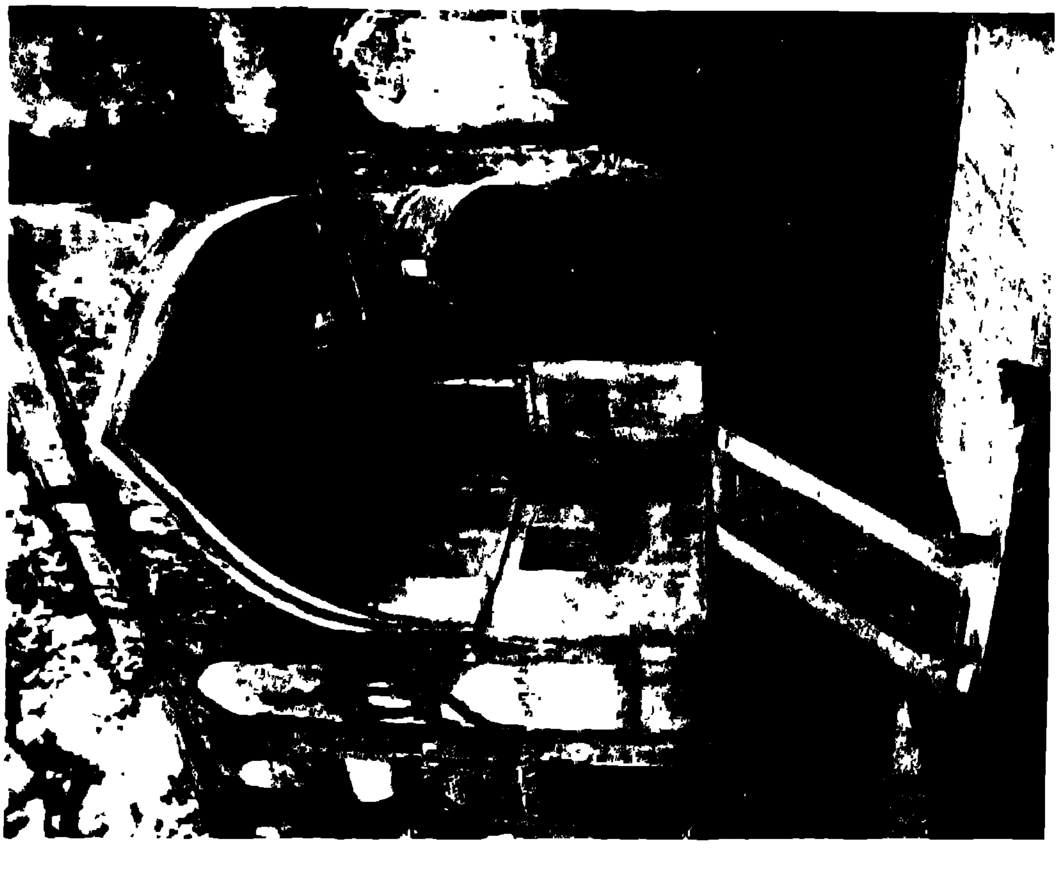




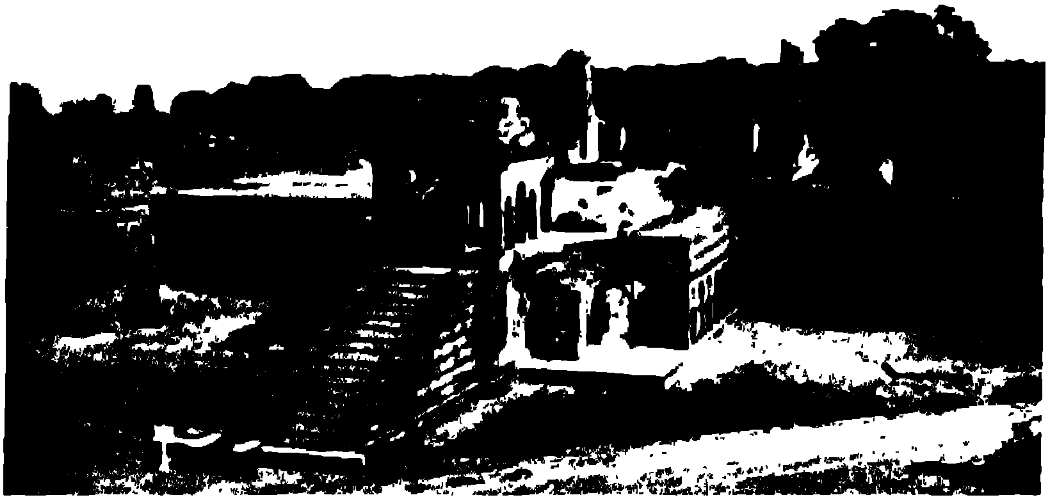








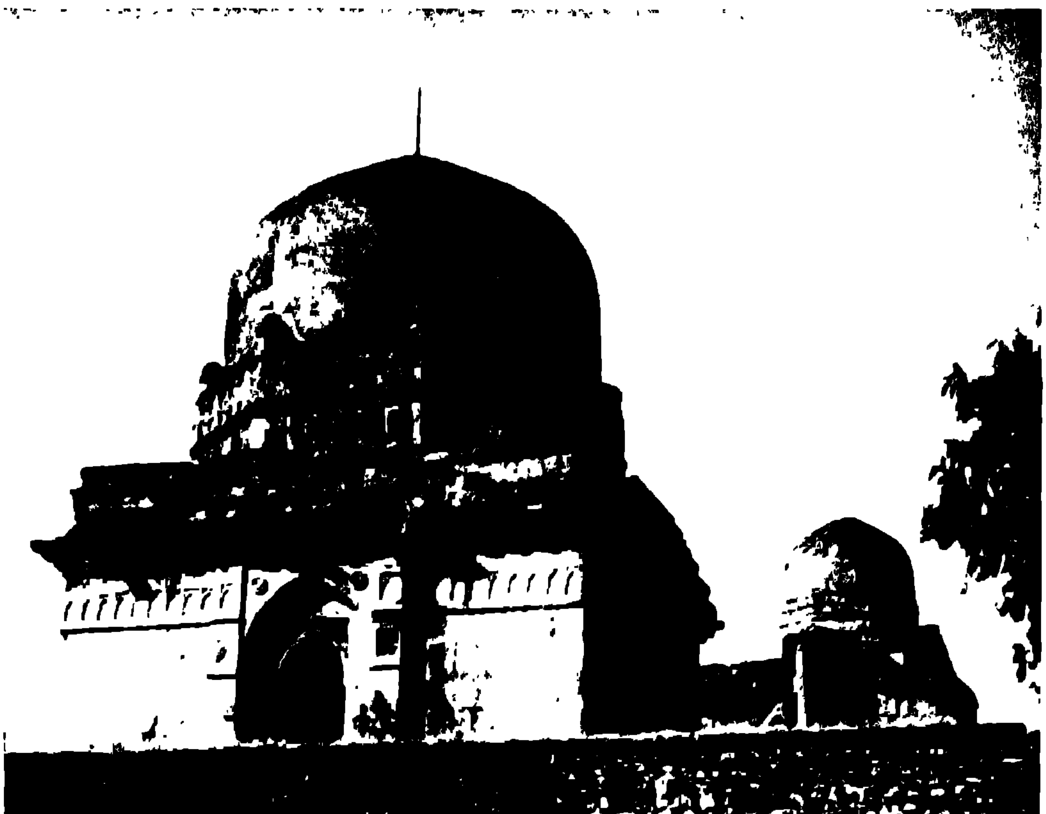
CXIV





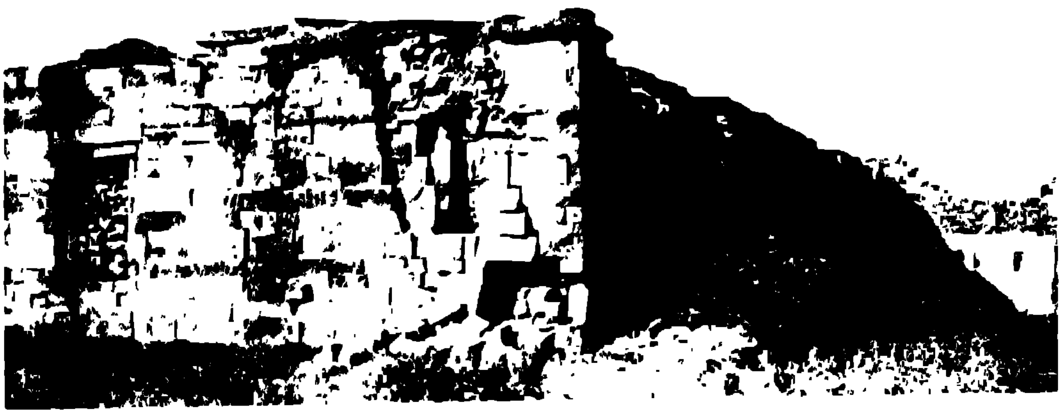


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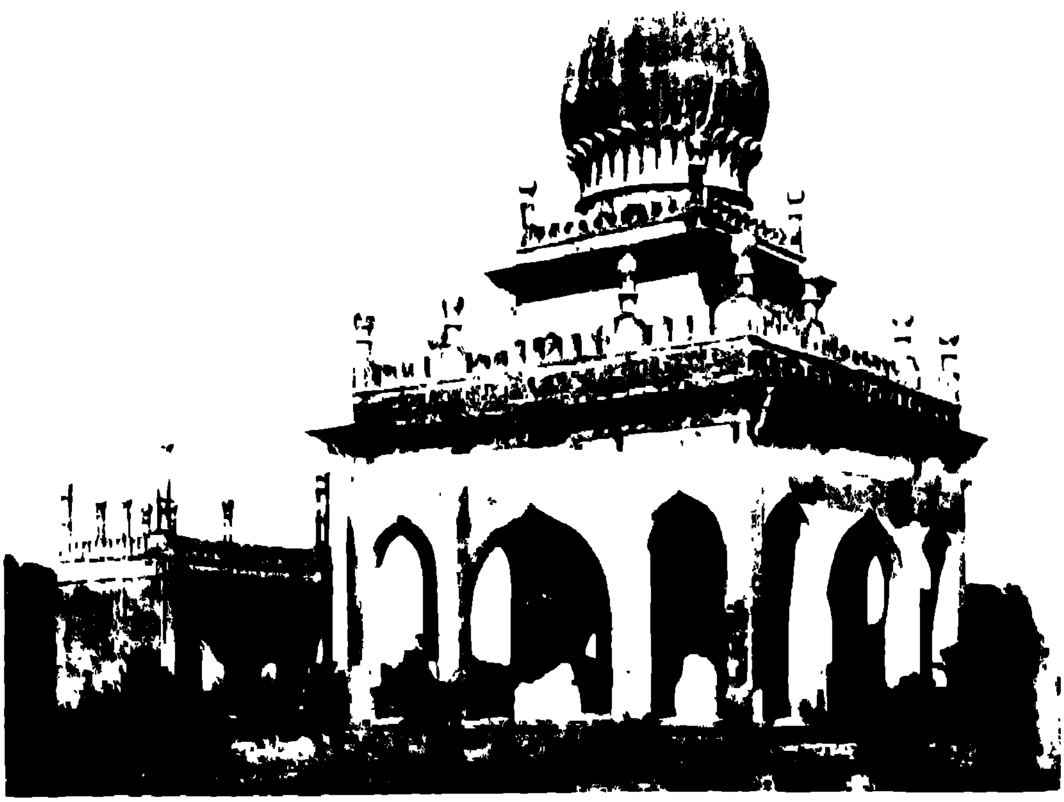


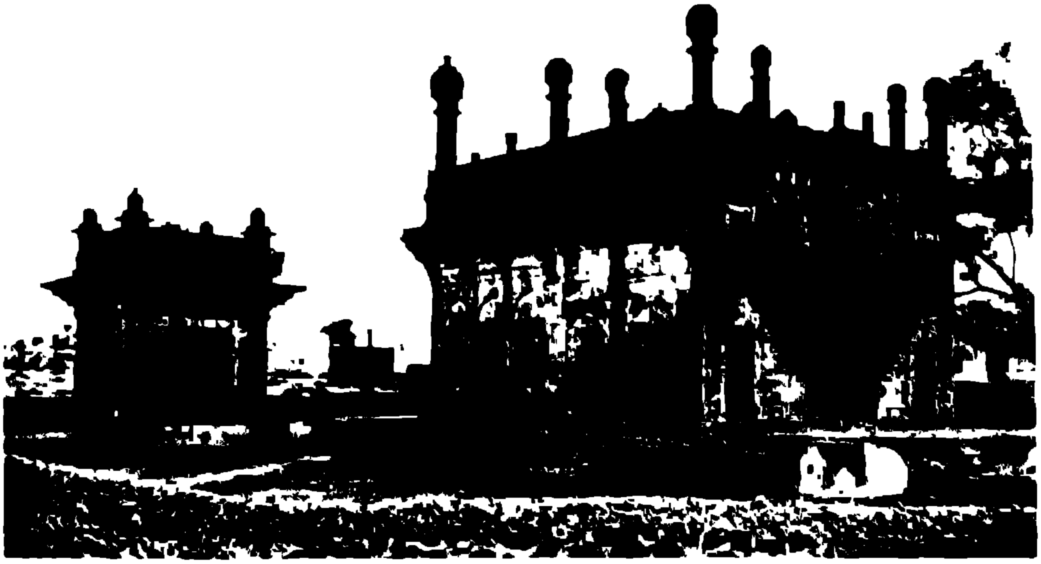




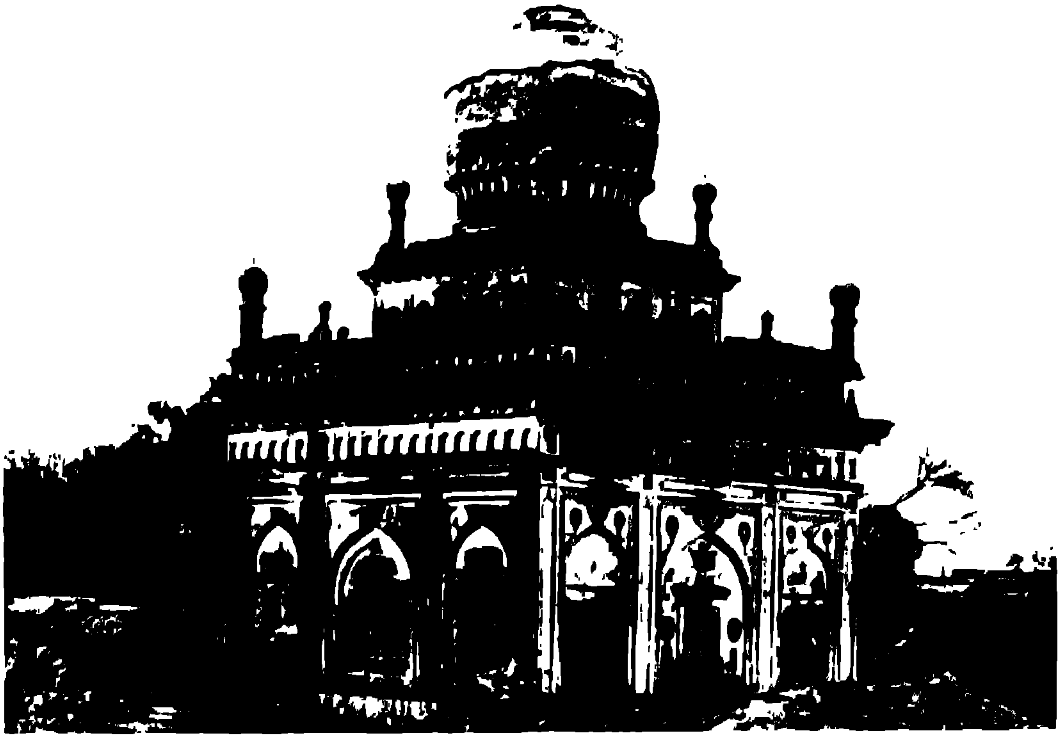


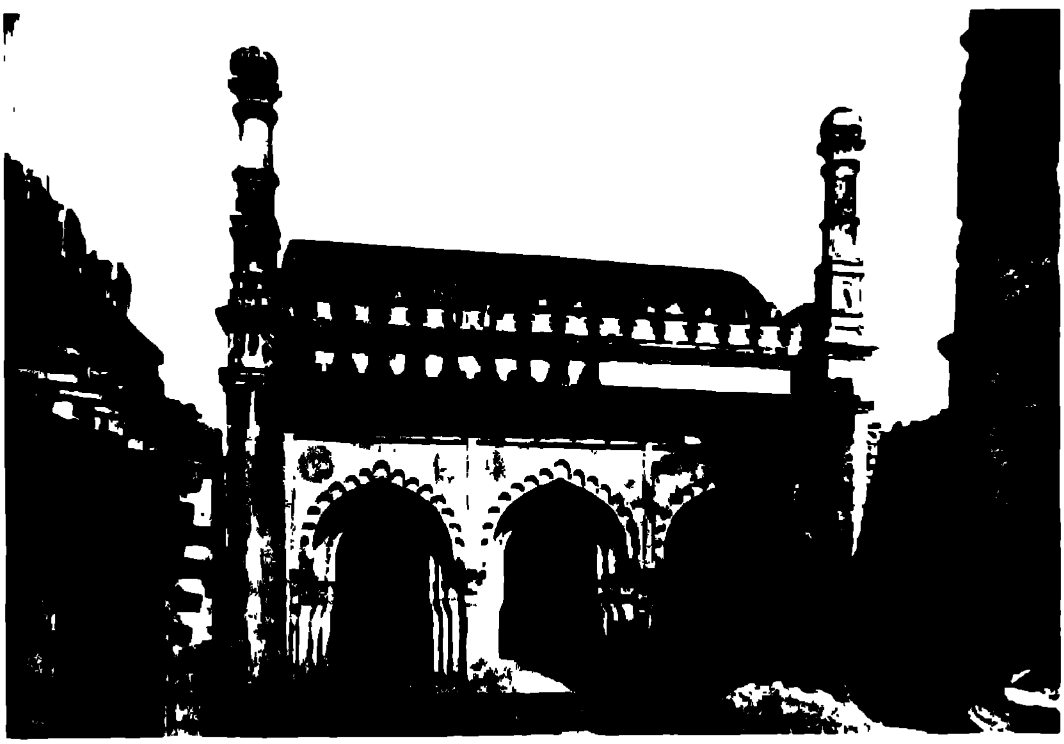


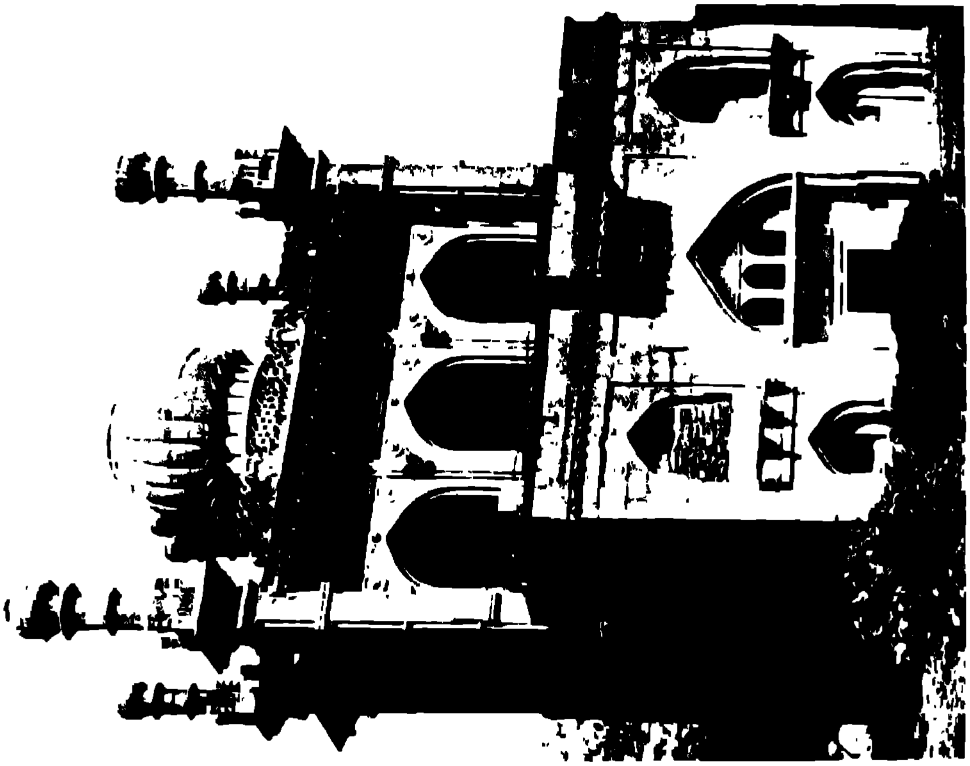








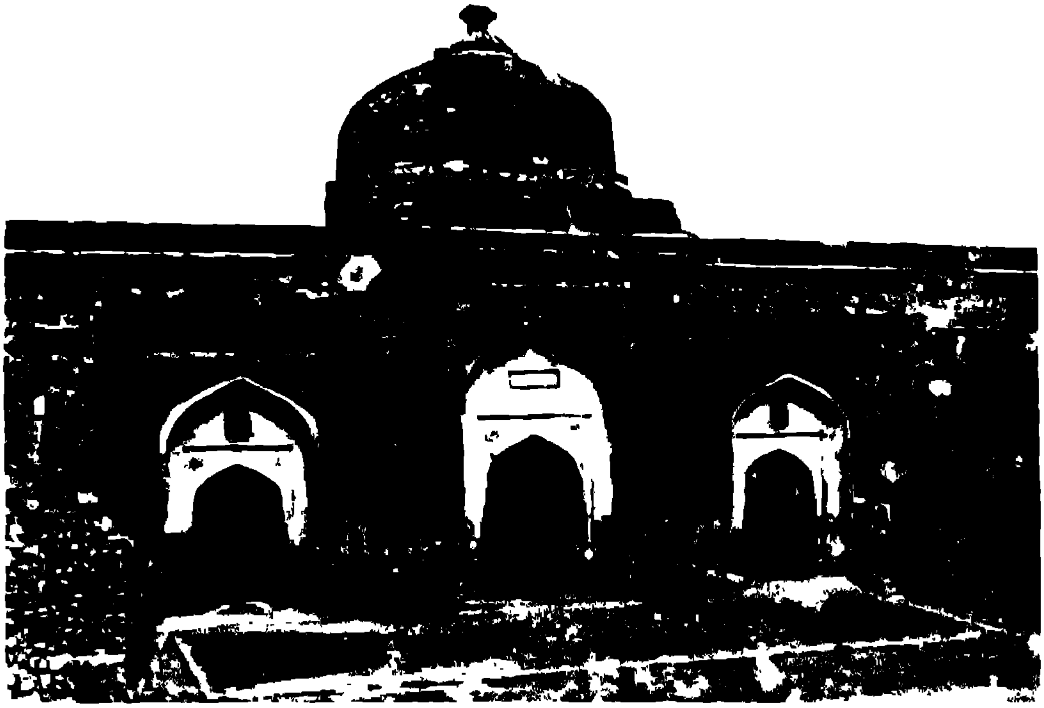












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